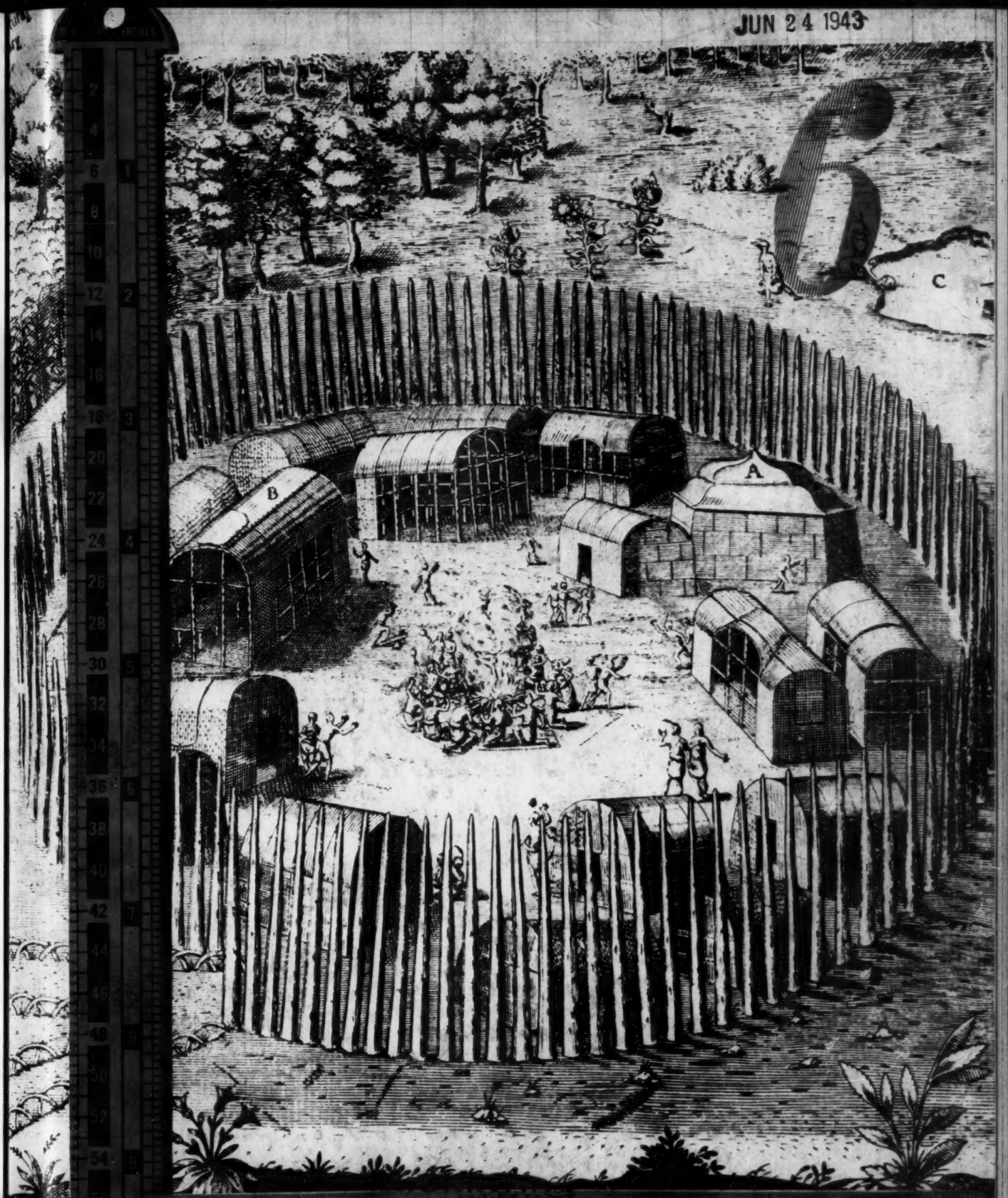
JUN 24 1943



NEW PENCIL POINTS

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U. S. Naval Hospital, Bethesda, Md., U. S. Navy Dept., Archts., P. P. Cret, Cons. Archt.; Alberene Black Serpentine Exterior Paneling, Alberene Stone Laboratory Equipment, and Alberene Stair Treads and Platforms.

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New Pencil Points, June, 1943

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Next Month:

A. Lawrence Kocher and Howard Dearstyne, architects, present *The Architectural Center*, a projected institution for investigating human, social, economic, and technical aspects of building. The Center is to be a place where the architects of a region can come for consultative service; where the public will see architecture in practice, in production, and as a finished product; where the manufacturer of building materials and equipment can test existing products, or find inspiration for new ones. It is also a school and a factory . . . The issue will also contain a presentation of Moore and Hutchins' Goucher College dormitories, and other features.

KENNETH REID, Editor; FRANK G. LOPEZ, Managing Editor; DON GRAF, Technical Editor; ALFRED E. GALL, Associate Editor; BERNARD RUDOFSKY, Associate Editor; MIRIAM WHITE, HELEN WILLS, Editorial Assistants; PHILIP H. HUBBARD, Publishing Director; JOHN G. BELCHER, Advertising Manager; JOHN ZELLNER, Circulation Manager.

The cover picture is of *La Place Forte de Pomejoac*, engraved by Theodore de Bry after drawings made on the spot, in 1585-86, by the English artist, John With — a French interpretation of an Englishman's drawing of an Indian village in Virginia. Print from the Bettman Archive. Cover montage by Rouben Samberg. Cover design, layout, and typography by Rudofsky.

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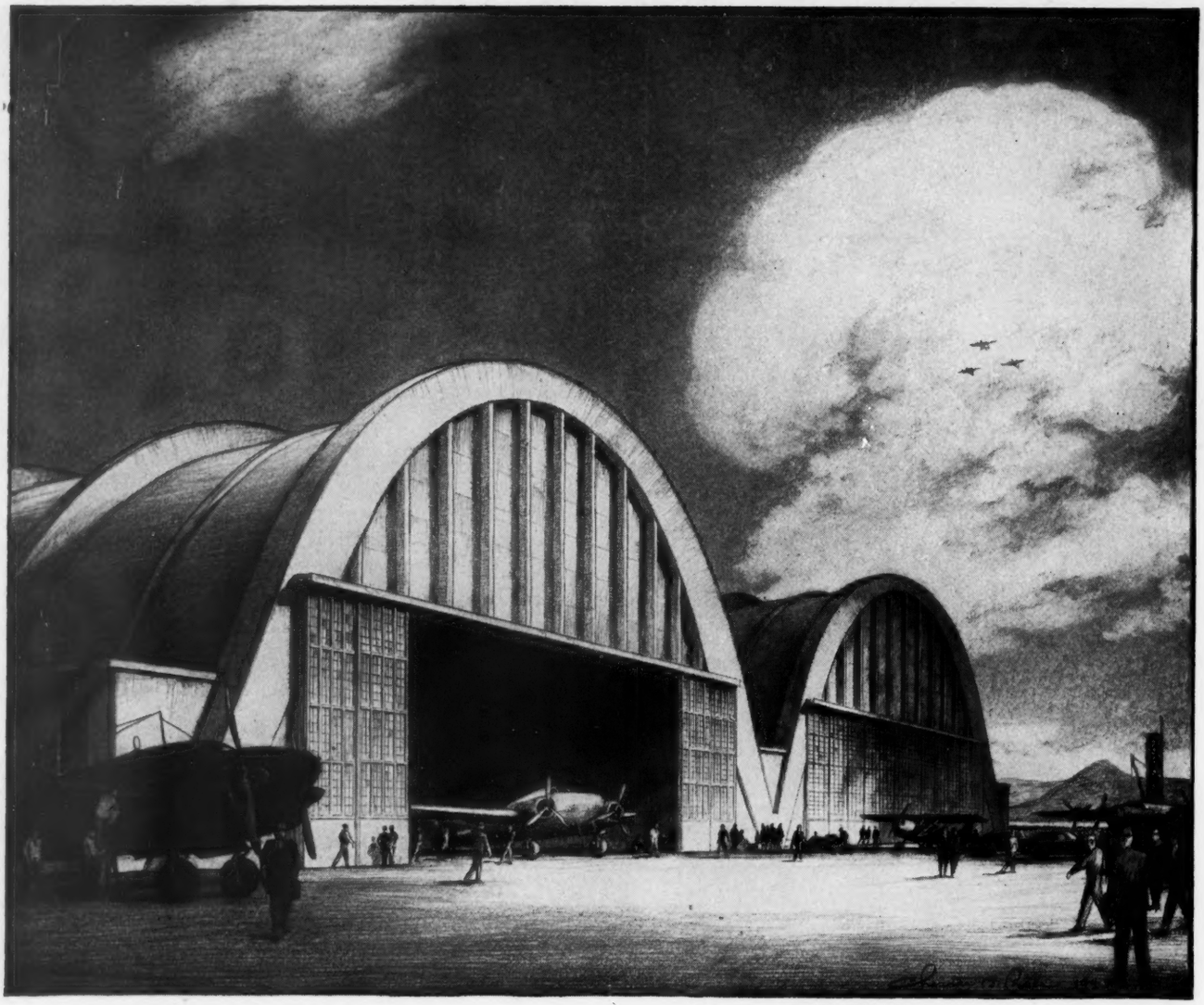

Drawn by Chester B. Price for Lone Star Cement Corporation

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Fireplace Competition

The Majestic Company of Huntington, Indiana, manufacturers of fireplace equipment, and other building necessities, invites architectural designers, draftsmen and students to participate in a competition for grille and mantel designs to be used in connection with the Majestic Circulator Fireplace.

To the winning designers Victory Bonds will be awarded as follows:

***First* prize a $150.00 bond**

Second prize a $100.00 bond

***Third* prize a $50.00 bond**

PROFESSIONAL ADVISER

Professor Wooster Bard Field, A.I.A., of Ohio State University, will serve as the professional advisor.

THE JUDGES

The judges are experienced practicing architects and members of the American Institute of Architects. Wartime travel conditions have prevented a selection of judges from more widely separated points which the sponsors would have preferred. The judges are as follows:—

Wilfred A. Paine, A.I.A.
Paine and Crumley, Architects, Columbus, Ohio

Herman J. Albrecht, A.I.A.
Albrecht and Wilhelm, Architects, Massillon, Ohio

George Hermann, A.I.A.
Hermann and Brown, Architects, Dayton, Ohio

A.I.A. SANCTION

The Committee on Competitions of the American Institute of Architects has examined this program and approved the competition for participation by its members.

Last Call

The competition closes at noon Saturday, July 31, 1943.

Write Today for Program & Details

MAJESTIC
COMPANY

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HUNTINGTON, IND.

Letters from Readers

A collection of more letters, pro and con, expressing reactions to New Pencil Points.

Salt or Saccharine?

Your May issue, with comments pro and con on what you are doing, was interesting. Isn't it true that those who quarrel with your program just won't recognize the fact that we are in a changing world where the kind of architecture that was acceptable twenty years ago just will not pass muster today. Do your critics want us to go back to the books and roll out stuff from the past, pasted on to our buildings? It, naturally, is strong meat to one whose whole training is shocked by something that he does not want to understand. When one envisages the very changes that science, today, begins to picture for the future, it is inconceivable that the architects can expect to hold their position, uncertain as it is, unless aware of the fact that the public is conscious of basic changes.

What should not be forgotten is that no matter what new concepts do appear, the ability of those critics of yours, as artists and men thoroughly competent in their craft, should be sufficient to master new issues and turn out buildings as beautiful, as sensible, and as useful as those that were built in other days. Of course there will be freak solutions and annoying results, but what period has not had the fine, the mediocre, and the bad? Ask the younger men of the profession what they see ahead—do they want platitudes to copy? I don't think so.

Ely Jacques Kahn, F.A.I.A.
New York

Good Old American—

Enclosed is my check for a complete set of your Monograph Series.

Last July I wrote Mr. Kenneth Reid a letter in reply to one of his editorials setting forth the new policy of your magazine and requesting reactions from its readers. All of the replies published were very much in accord with Mr. Reid. Just now I am happy to run across a letter or two from readers who are not totally in harmony with all of his theories, who still have faith in the American architect and in his ability to carry on without giving over all of his authority to a governmental regimentation and holding fast to the well proven theory that an architect is an architect, and an engineer is not an architect.

If it were not for the architects of this country who still have faith in the past, as well as the future, and who admit that there is still much to be admired and even learned from the past, there would be little, if any, sale for your Monograph Series. In fact, I have yet to meet an architect worthy of the name who hadn't had a pretty thorough training in the good old classics, from which early American was derived. You yourselves, on page 67 of the March issue show how ludicrous the typical modern stuff is compared with architecture. I believe every architect is for progress, but I repeat that new styles aren't created overnight. And I still call it "styles".

The foregoing is all in good humor and, let me add, speaking of Early American, I hope a few more articles and criticisms appear in your magazine by men with good old American names!

Percy D. Bentley, Architect
Eugene, Ore.

Engineer Likes "New"—

I recently saw a copy of Pencil Points and was delighted to see the change that has come over it. Will you tell me when the new policy went into effect and whether back numbers of this "new" magazine are available. If this is to be a consistent policy I would like to enter my subscription and will send a check by return mail if you will let me know the yearly rate.

I am an architect gone engineer for the duration and have a great hankering to get back to the chosen field.

Frederick D. Petrie, Architect,
Cleveland, Ohio.

" . . . Boil and Bubble"

It was the March issue, I believe, in which I read a letter condemning you for the New Pencil Points (since January) and particularly criticising the covers by Rudofsky.

Whenever I think of that letter my blood boils and I get the urge to write and blast the writer. Why can't he see that your covers are now the best in the country? Why can't he realize that the content and layout of the magazine are now as good and forward looking as any in the country? This gentleman doesn't seem to realize that the metamorphosis accomplished by Pencil Points from 1942 to 1943 is comparable in scope and quality of change to the change Gropius achieved at the Bauhaus.

I enclose my check for $5 for a two-year subscription on condition that you continue Pencil Points as it is. Any organization which has changed as fundamentally as yours has is deserving of support.

Congratulations!—and I wish that dissenter could know how I feel, for this is my dogma and I shout it!

Fred F. Bassetti, Draftsman
Seattle, Wash.

(We have every intention of continuing our policy—Editor.)

"Furriners"

You have never seen such a bunch of dispirited architects as I have seen the last few days. That last issue (New Pencil Points, April 1943) just seems to have been the last straw. God; after one has worked for years to try to bring something into this world that is worth while, and it is an uphill fight, to have the last

(Continued on page 10)

THIS IS NO TIME FOR *False* ECONOMIES

America is not stinting on the quality or quantity of material these men are assembling as part of the world's mightiest war machine. If a certain kind of steel is needed, that certain kind of steel is used. Since both the steel and its use are essential, that is real economy. But some people seem to have the belief that *all* steel, regardless of its kind, must be saved for weapons and war material. They don't seem to realize that (1) there are innumerable kinds of steel and by no means are all of them suitable for weapons and war material; (2) there is essential need for steel in the buildings, machines and other facilities in and with which these weapons and this war material is produced; and (3) there is enough steel available for essential production facilities.

To refrain from using steel when steel is both essential and available . . . in the absence of adequate substitute materials . . . is neither economical nor safe practice . . . and certainly this is no time for false economies.

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includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, construction involving shore protection, ship building facilities, harbor and river improvements and borings for soil investigation.

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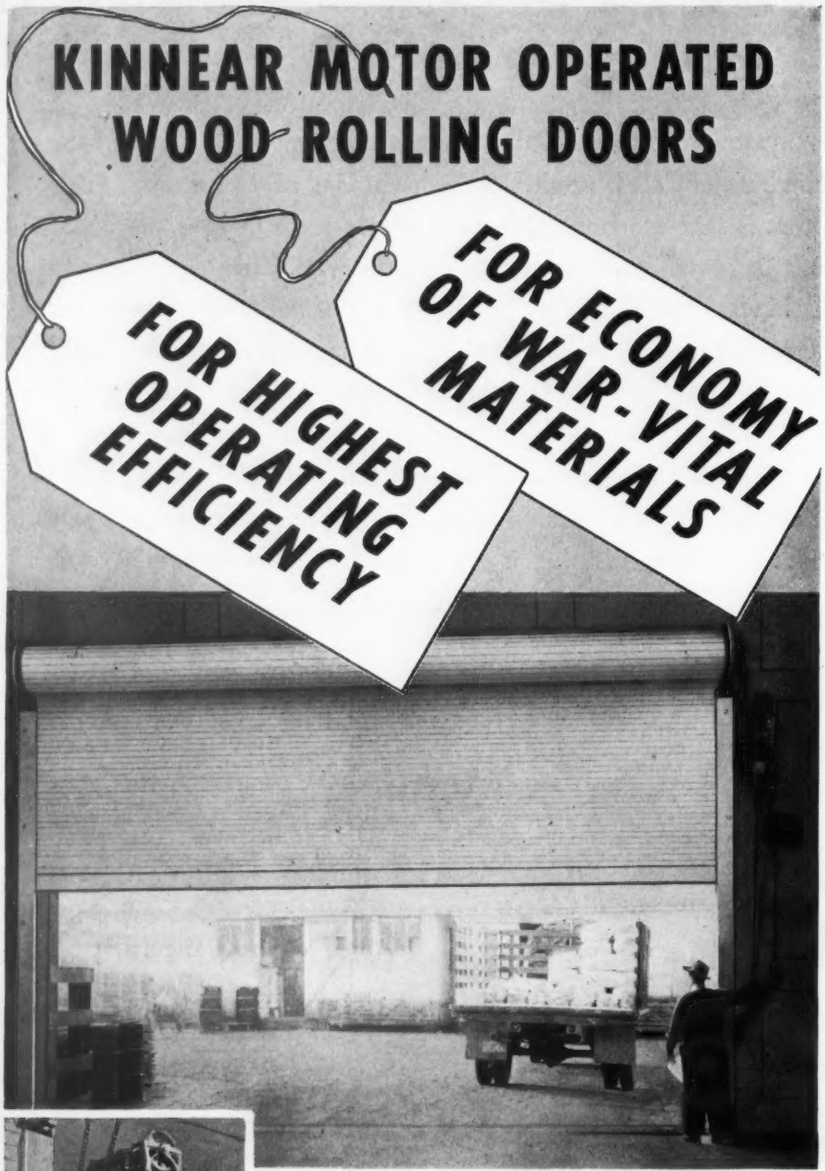

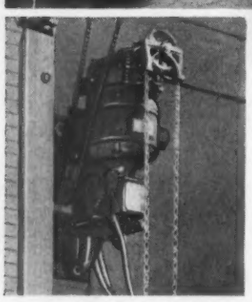

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SAVING WAYS IN DOORWAYS
KINNEAR ROLLING DOORS

(Continued from page 8)

magazine go off the deep end with such a Gropius article as you had. It is bad enough to have the Germans abroad trying to sabotage our existence, but to have every school piled full of Germans, every magazine falling for it too. I looked at Ed Williams yesterday at lunch and he just said what's the use. I thought we had left the matched sheathing period behind a long time ago. Cheap tenements, cockroaches, bed bugs, I can see them crawling up the cracks on your cover. Isn't there one editor that is filled with the urge to do decent Architecture? Must we thrust knock-down packing boxes on everybody to live in? Must we have wordy Architecture all over the place? Can't we progress without some "Ovsky" or "Ferriner" to blast what few American ways are here to work with?

It's tough, but an Architectural Editor should never fail even if the profession does at times.

CAMERON CLARK, Architect
New York

Unruffled

I was amazed at the type and calibre of criticism directed at you and your staff, as published in the last issue of NEW PENCIL POINTS. I naturally assumed that the entire profession was in full agreement with your policies, methods, presentations.

Permit me to add my mite of praise. I have nothing but respect for the masterful way in which PENCIL POINTS has stepped forward. I admire your objectives, your editorials, your selection of material, and the way in which you present it. I expect that you will continue, in an unruffled manner, to maintain the high standards that you have achieved in spite of (and because of?) the critical elements in the profession.

I should like to make one suggestion and hope that you consider it constructive. A weak link in the architectural armor is the lack of precise knowledge of construction costs. This is particularly true with regard to new construction techniques. I feel that you would be providing the profession with an important service if you could include some sort of cost analysis with each building published.

RALPH M. KARGER, Architect
Forest Hills, N. Y.

"Exterior Decorators"

An aura of make-believe has always surrounded the architectural profession. Architects dwell in a world of wishful yearnings. The profession, even today, after months of browbeating by engineers riding a crest of transient success, will not face the facts about itself. It too frequently assumes the theoretical position —which in practice is rarely accorded it— that it is qualified to tell owners what they want, or should have, or that it can proceed with the solution of all problems without first finding out what those problems are from the other man's point of view.

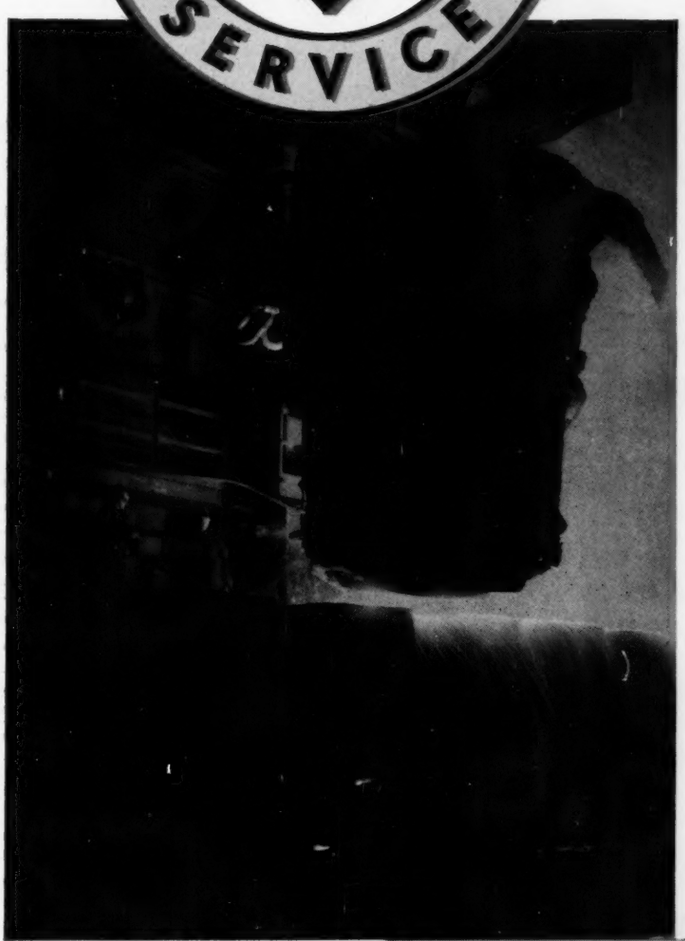
A good example of this is seen in the recent NEW PENCIL POINTS-Kawneer competition for "Store Fronts of Tomorrow".

(Continued on page 12)

Faith in the Future

What's Behind the Trade Mark?

QUALITY
TRADE MARK
YOUNGSTOWN
SERVICE



The Youngstown Sheet and Tube Company was founded in November, 1900 by 47 local investors, with an authorized capitalization of $600,000. In December, 1901, this capitalization had been increased to $4,000,000 to provide for the expanded program decided upon by the men of vision who planned the future of this company.

In February, 1902, 14 months after the initial meeting of the shareholders of this company, the first product carrying the Youngstown trademark was produced. In this same year, these pioneers took the first step to assure complete integration . . . the first producing blast furnace was purchased... the first ore properties were acquired... and the first coal lands obtained. These early acquisitions all served as a nucleus around which was created the great industrial organization, which in later years served mankind in every corner of the globe where products of civilization were making life more complete.

We are doubly appreciative of the efforts of those who preceded us at Youngstown. These men of faith, courage, foresight and action have bequeathed to us those things with which we can make a definite contribution in helping to win freedom for the world today, and upon which we can help build an assured prosperity for the future.

Pipe and Tubular Products - Sheets
Plates - Conduit - Bars - Tin Plate
Rods - Wire - Nails - Tie Plates and
Spikes - Alloy and Yoloy Steels

The YOUNGSTOWN
SHEET AND TUBE COMPANY, Youngstown, Ohio
Manufacturers of
CARBON · ALLOY AND YOLOY STEELS

(Continued from page 10)

Five outstanding men in the fields of merchandising, display, psychology, real estate, and architecture would make up a practical and efficient jury qualified to judge a problem of this nature. But, as it was, the problem was judged by a jury of architects only.

What can be said of a jury composed of not even one merchant? What was the problem—to make a picture or to integrate in some way the elements of five wholly different types of shops? The answer lies in the first prize design.

The stores, it will be remembered, were intended to "serve people of low and average income", which means that the mark-up should be kept down, and this is achieved partly by getting the most sales per square foot possible out of the property. A merchant on the jury would have considered this point important.

But apart from the mistake we make in not taking the imaginary owner into consideration, the competition exposed our cardinal sin. We are still "exterior decorators" as the engineers say. We are still forcing the plan a bit to save the elevation. The jury did not hesitate to condone the omission of a badly-needed corner column to save the design that looked the airiest. The depth of the roof construction seemed hardly sufficient to span the 25 or 30 feet required. Such an unesthetic thing as cantilevering concrete construction does not apparently bother men who are looking into a postwar world, but it should. Wishful thinking will never hold up a roof or, unfortunately, the profession's reputation.

PERCY CASHMORE, Architect
White Plains, N. Y.

(Page 52 of the May issue shows the use of wide overhangs supported on glass walls.—Editor.)

E Pluribus Unum

In reading your editorial in the April issue it raised a feeling within me of quiet disgust. Is it any wonder that the architectural profession is weak and their future is at stake when the individuals involved are so damned shortsighted that they will not invest, say an amount of $25 per year, for their very own preservation and future betterment. I firmly believe that the individual architect has been too selfish and the time is now past due for him to realize that only as a group can he survive and improve.

To go a little further at this time, I wish to say that as a young man (with hopes of having a future practice) it is also my hope that all of us younger men are brought to realize that strict ethical practice will give everyone the opportunity to do the best type of work and also to provide for a more firm, economic income.

HAWLEY E. MCAFEE, Designer
Syracuse, N. Y.

Modernize Profession

For many years I have been a subscriber to your magazine and have always enjoyed it very much. There have been times when I have felt that the NEW PENCIL POINTS was of no use to me, but I always think that perhaps it is just what the other fellow may need and perhaps there is something in the next issue for me. There usually is and thus I have been keeping it up. Now I have come to enjoy it even more because I suddenly realize that you have done something to modernize a pretty antiquated profession which could stand modernizing on quite a few points.

I am all for it and look forward to each new issue as it always brings a certain freshness and ideas of a progressive movement toward the construction of tomorrow.

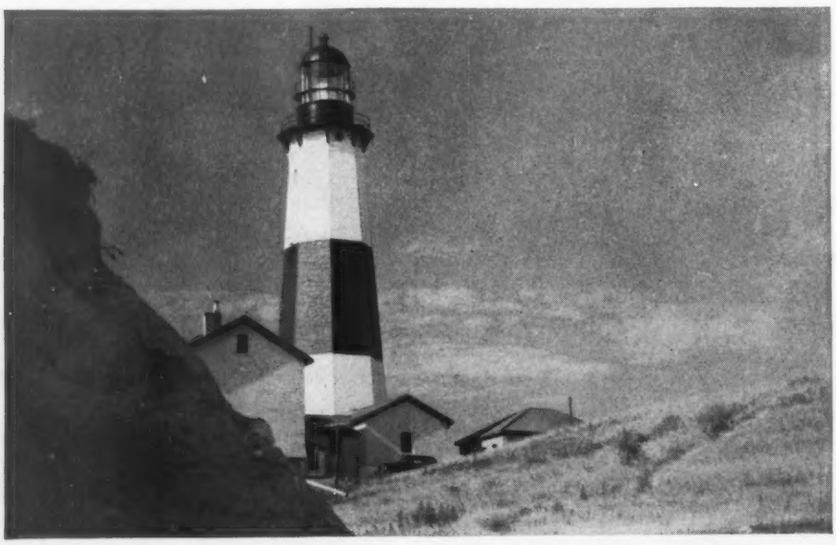
E. P. FRIES, Designer
Washington, D. C.

Realistic Planning

For some time I have been meaning to write to you to offer my congratulations on the presentation by NEW PENCIL POINTS of the work being carried on by the Chicago Planning Commission.

It was one of the best articles of its kind which I have read, and it should give encouragement to other cities which may have been skeptical about the possibility of developing a comprehensive and realistic planning program.

FREDERICK J. ADAMS,
School of Architecture
Massachusetts Institute of Technology



Symbol of Safety

In exit devices, the symbol of safety is the name Von Duprin.

Just as Von Duprin was the original self-releasing fire and panic exit device—just as it was the first (and only) device to use drop-forgings—so today it is the outstanding advocate of completely safe devices, in war as in peace.

Victory Model Von Duprins are made only of tough, resilient malleable iron. They can be trusted implicitly. They are sure in operation; they are, beyond any doubt, SAFE!

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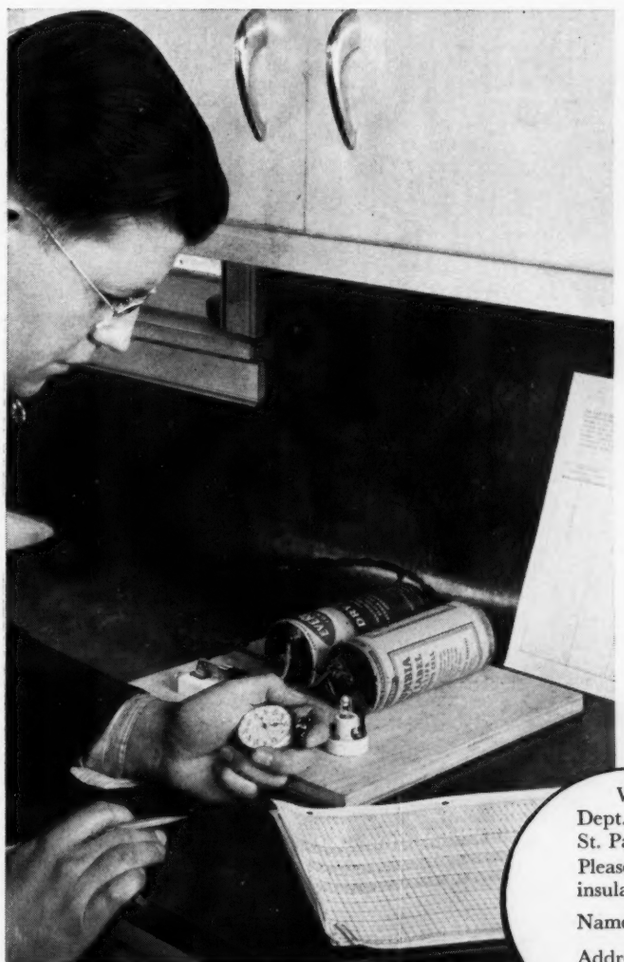
4 Houses like this

built to find the truth about insulation



Checking wind velocity by timing period between flashes of lamp activated by electric cup anemometer.

What will insulation do? How much fuel will it save? What thickness is required? These are questions that cannot be answered completely by laboratory tests and slide rule calculations.

The real truth can be obtained only by accurate tests in actual houses—on the job.

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Please send me complete scientific data on the Wood Conversion Company insulation tests.

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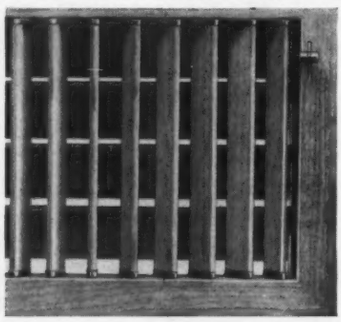
City.....State.....

Products Progress

(The columns of this section are open to any manufacturer who has a new product of interest to the architectural profession. Manufacturers who wish to have their product shown should send a glossy photograph, together with information covering the function, characteristics, installation, cost of the product, and a description of what AIA literature is available.)

NON-METALLIC REGISTERS

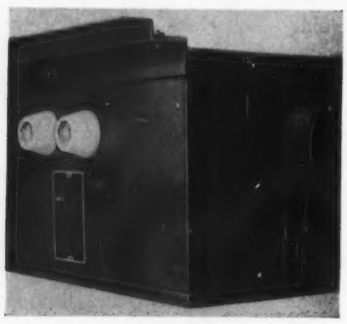


Tuttle & Bailey, Inc., New Britain, Conn., have developed several non-metallic registers and grilles for wartime installations. The model shown has bars which are individually adjustable and is equipped with a Presdwood multi-shutter damper. Vertical face bars are capped with steel, provide sideways deflection. The horizontal back blades allow for control of air volume. The new grilles and registers are furnished as standard in a flameproof, fire-resistant prime coat finish. Available in various sizes and models.

PLASTIC SCREEN

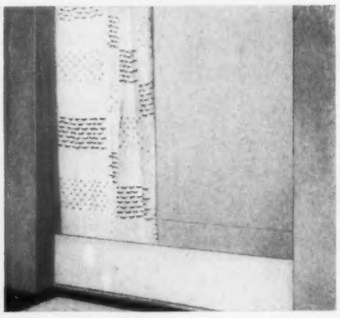
A new Velon plastic window screen, developed by Firestone Tire & Rubber Co., Akron, Ohio, is said not to deteriorate or corrode since there is no rusting or oxidation of any kind. Being translucent, Velon screens admit more light. Dirt may be washed from it with a damp cloth or brush to restore original luster. Heat and cold do not affect it. It is said to be strong, flexible, and highly resistant to impact. Velon is also being used in production of seat fabrics, draperies, can be molded into flexible tubing.

COLD CATHODE TRANSFORMER



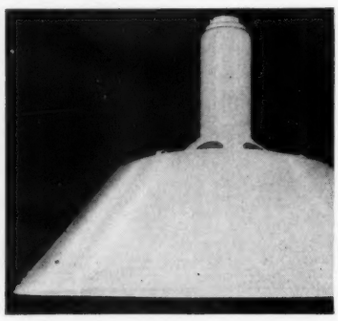
A new style cold cathode lighting transformer, designed for industrial applications, from Acme Electric & Mfg. Co., Cuba, N. Y. Capacity of 120 milliamperes in 3,000, 4,000, 6,000, 9,000, 12,000, or 15,000-volt secondaries. It is a heavy-duty, vibration-proof unit, with standard circuit box for primary connection and built-in parallel electrode housings for direct connection of cold cathode tubes. Cold cathode lighting is similar in basic manufacturing process to the luminous tubes used in "neon signs."

GLASS SHOWER-BATH UNIT



This combination shower and bath was developed by the Pittsburgh Plate Glass Co., Grant Building, Pittsburgh, Pa. Using almost no critical materials, and composed of four sheets of Carrara plate glass which is fabricated into a single unit, the combination unit was developed primarily for use in new or low-cost houses intended for war homes. The new Pittsburgh combination unit—which has a flat bottom drilled for necessary drain fitting and also has foot-high side walls—comes in a choice of colors.

REFLECTORS

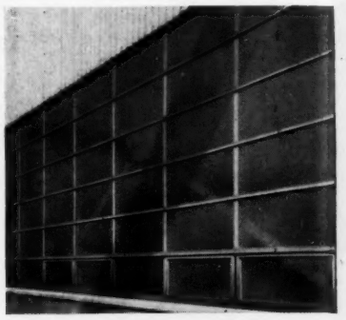


Industrial reflectors which make use of a Plaskon reflecting medium are now being made by F. W. Wakefield Brass Co., Vermilion, Ohio. The Commodore units consist of a series of 15″ and 19″ reflectors for lamps from 200 to 500 watts. Plaskon is used to allow some light upward to illuminate the ceiling. Available with adapter or screw terminal socket. The reflector is easily cleaned, resilient, and is maintained in place by a three-point safety suspension. It uses only 13 ounces of steel.

FLOOR CEMENT

All-purpose waterproof-type cement, designed for use as an over-all adhesive for cementing resilient floor materials to on-grade concrete floors, from Armstrong Cork Co., Lancaster, Pa. Known as No. S-220 Cement, the material is said to make it possible to obtain a much firmer bond with the elimination of stretching or crawling of resilient floor materials, after the installation has been completed. Can be used for purposes for which rustproof and waterproof cements have been recommended.

SASH

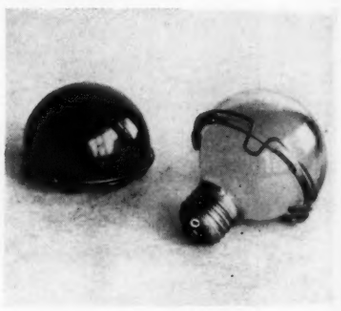


Simplicity of design reduces window cleaning and maintenance in this installation of the Geyser Bar Window, product of E. K. Geyser & Co., 200 Cedarhurst St., Pittsburgh. Horizontal glass-receiving bars are carried in unbroken lines across vertical slotted members. Ventilating panels are shop assembled; balance delivered in bar form for site assembly. Glass panes from 30-44″ wide by 17-24″ high are used. Wood construction is substituted for the previous aluminum-steel and aluminum used in the windows.

FANS

Four types of Autovent propeller fans have been announced by Herman Nelson Corp., Moline, Ill.—standard direct drive, standard and high-powered belt drive, and high-powered direct drive fans. All types available for single phase, 115 or 230 volt; 3-phase, 220- or 400-volt, 60-cycle A. C.; or 115- or 230-volt, D.C. The new fan design features a non-metallic panel for quiet operation, easy installation. Booklet contains complete information, dimension and performance tables for the many fan types available.

COLOR HOODS



Reynolds Electric Co., 2650 W. Congress St., Chicago, has developed a safety color hood for light bulbs. Hoods are strong shells of permanent natural blue or green colored glass, slipped easily over a standard lamp bulb and held in place by a wire spring. When the bulb burns out, the hood can be taken off and replaced on the new bulb. Colored rays throw very little shadow. Designed to give industrial plants a low-cost system of lighting with maximum protection, minimum percentage of accidents.

(Continued on page 16)

Both are finding security in Copper and Brass

They're 10,000 miles apart, this young couple, but each, in his or her own way, is counting on copper and brass for security . . . she, on the copper plumbing and sheet metal work that will still be in good repair long after he returns . . . he, on brass ammunition, being supplied to him in sufficient quantities to insure victory over his axis adversary.

On the home front, much credit is due you for your pre-war specifying of copper and brass, for today these metals are relieving many American people from the annoyance and worry of rusting, irreplaceable equipment. And in the peacetime future, homeowners will count on your including copper and brass in specifications intended to provide lasting security and freedom from maintenance bills resulting from less durable materials.

ANACONDA
from mine to you

4319

Anaconda Copper & Brass

THE AMERICAN BRASS COMPANY—General Offices: Waterbury, Connecticut
Subsidiary of Anaconda Copper Mining Company. In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

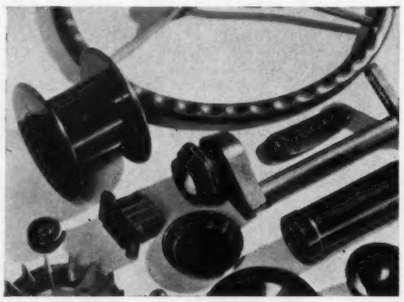
(Continued from page 14)

PLASTIC PIPE, TUBING

Dow Chemical Co., Midland, Mich., has developed a line of plastic pipe and tubing under the name of Saran, produced by a modified extrusion process. Dimensions conform to standard, heavy iron pipe specifications. The pipe may be welded, is said not to be affected by commercial acids and alkalies. Standard pipe threading tools may be used in threading the pipe. Standard fittings include couplings, ells, tees, bushings, plugs, reducers, are available in sizes from ½″ to 2″. Pipe from 2″ to 4″ inside diameter has already been developed. Fittings for this size will be available soon.

NON-CRITICAL PLASTIC

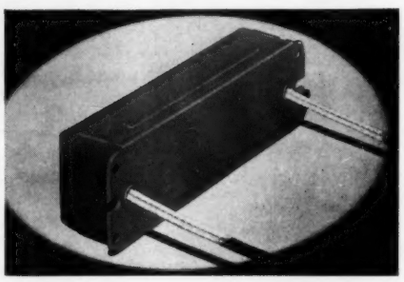
A new non-critical phenolic type thermoplastic, called Shellerite, made from Redwoods, is now available for production of



items formerly made from hard rubber and other thermo-setting compounds. It embodies in one composite form both resin and filler employed in the molding of an endless variety of products, is adaptable to either compression molding or the standard equipment of hard rubber plants, and is said to produce products of excellent tensile strength and attractive appearance. Sheller Mfg. Corp., Portland, Ind.

BALLASTS

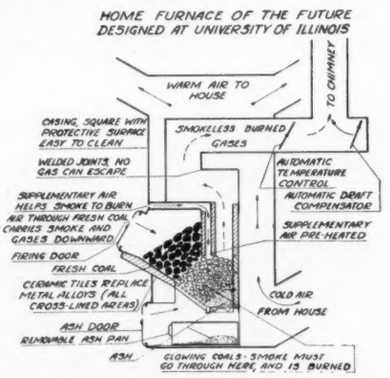
Designed as an aid to fixture manufacturers to save critical materials is a new line of ballasts with leads coming out



through two bushed holes at each end of the base plate. General Electric Co., Schenectady, New York. Bottom location is the only difference between the new units and the company's conventional ballasts, but the feature is said to save pounds of critical material per fluorescent fixture. Because of their exposed location, the ballasts are said to operate in lower ambient temperatures, thus contributing to long ballast life. They do not require special installation features such as ventilating louvers and conduction plates. Bulletin GEA-3293 describes the complete line of ballasts.

POSTWAR FURNACE

Two University of Illinois engineers, J. R. Fellows and J. C. Miles, have developed this hot-air furnace said to cut fuel con-


HOME FURNACE OF THE FUTURE
DESIGNED AT UNIVERSITY OF ILLINOIS
WARM AIR TO HOUSE
TO CHIMNEY
CASING, SQUARE WITH PROTECTIVE SURFACE EASY TO CLEAN
SMOKELESS BURNED GASES
WELDED JOINTS, NO GAS CAN ESCAPE
AUTOMATIC TEMPERATURE CONTROL
AUTOMATIC DRAFT COMPENSATOR
SUPPLEMENTARY AIR HELPS SMOKE TO BURN
AIR THROUGH FRESH COAL CARRIES SMOKE AND GASES DOWNWARD
SUPPLEMENTARY AIR PRE-HEATED
FIRING DOOR
FRESH COAL
CERAMIC TILES REPLACE METAL ALLOYS (ALL CROSS-LINED AREAS)
COLD AIR FROM HOUSE
ASH DOOR
REMOVABLE ASH PAN
ASH
GLOWING COALS - SMOKE MUST GO THROUGH HERE, AND IS BURNED

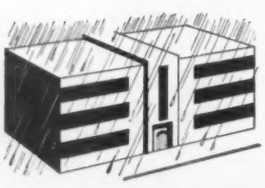
sumption in half. The unit burns the cheapest grades of coal without smoke. A down-draft forces unburned coal gas through the bed of coals. The furnace, 2′ square and less than 6′ high, may be installed in a basement for gravity heating or on the first floor where forced draft is used to circulate heated air. When tests are completed in the University's engineering laboratories, the furnace will be put into limited production.

Sure you'd run for shelter

If you, Mr. Architect, were caught in a hard rain without a raincoat, you'd run for shelter. You wouldn't want to ruin your clothes. Buildings too, need "raincoats." These buildings that you design are subject to the same hard rains—

but a building can't run

It must stand and take it—without a waterproofing "raincoat," water can come through above grade walls or seep through the basement floors or walls. You can easily provide your buildings with a "raincoat" good for the life of the building. That "raincoat" is the specification of Medusa Waterproofed Gray Portland Cement in all concrete, stucco, mortar and plaster coats. Medusa Waterproofed Gray is a regular gray Portland Cement, with which has been ground in, at the mill, a waterproofing material that lines the pores of the concrete, stucco or mortar, repelling all water at the surface. And the cost of this raincoat is only a fraction of the damage or repair bills necessitated by a leaky building. Write today for your copy of the book, "How To Make Good Waterproofed Concrete."



MEDUSA PORTLAND CEMENT CO.
1004 Midland Building • Dept. D • Cleveland, Ohio

MEDUSA WATERPROOFED GRAY PORTLAND CEMENT

New Pencil Points News

June 1943

THEY SAY...

"History is merely gossip."
—*Oscar Wilde*

—That the Construction Division of WPB, now a godsend to New York City's Empire State Building, is slated to return to Washington very soon. Decentralization apparently has seriously impaired operating efficiency.

—That soon surveys will be coming out to ascertain what the public thinks it really wants in the new homes, mass-produced . . . whether there should be sliding glass windows, open-louver effects . . . or what; whether air conditioning or old-fashioned weather will hold people's affection; *ad infinitum.* Surveys are fun.

—That once there were about 25 housing agencies, then some 3 or so, and now there is supposed to be 1 large organization, taking in all groups. But —recently a Washington reporter's home office is supposed to have wired him to look up FHA, explaining that the local Federal Homes Registration office had "lost contact" with it and wanted to know if it still existed.

NEW "DATA SHEETS"

The PENCIL POINTS Data Sheets, run continuously as a regular feature of this magazine for eleven years, ending last December, were discontinued on the recommendation of their author and compiler, Don Graf, who felt that he had carried the series as far as practicable and that the effect of war-produced-changes in the building industry might threaten the validity of further data that might be prepared during this time to continue the series in its original form. The thousands of readers who have found the Data Sheets of practical help in their work will be interested to know that Don Graf has now, in preparation, a new serial feature which will be launched in an early issue. It will be known as "The Fast Facts File of Building Products," and will be presented in a form offering maximum convenience in use. Watch for further announcements.

An Editorial

NRPB IS CUT OFF WITH A PENNY

Functions Curtailed; Board Called "Socialistic," "Dangerously Imaginative"

Only a Utopian glassed in on a fog-bound peak could approve the recent move of Congress, which after threats and persuasions cut NRPB down to $200,000. Briefly, the history of the affair is this:

The Bureau of the Budget recommended an appropriation of $1,400,000 for NRPB. The House of Representatives refused to appropriate anything. The President sent a strong recommendation to the Senate, which was to debate the question on Monday, May 24. But Senator Taft (and a few others) were absent; the matter was put off until they returned. By Thursday, May 27, they had come back, and the Senate voted to cut NRPB off with, in proportion, the traditional penny—$200,000. Borrowing on their behalf from appropriations to other agencies is specifically prohibited. Now the question is to come up again for compromise.

Thus Congress proposes to complete a better job of sabotaging a constructive agency than if it had refused any appropriation at all. NRPB, the only federal agency which has demonstrated its capacity to plan adequately for all the people and all the private interests, industrial and otherwise, is to be effectively hamstrung. Our postwar problems—only a small part of the larger difficulties which we face—are to be left to chance. True, a Congressional postwar committee, the George Committee, is spoken of as an alternative to NRPB. Its composition is very conservative, and from past records, content to muddle along. It is hard to imagine this committee suddenly attaining the vision and power to produce a real plan for the adjustment from war to peace, a job equal in scope to that performed by the armed services in moving from peace to war.

Senator Taft believes NRPB to be "partly socialism, partly the result of dangerous imagination," according to newspaper reports. If planning in advance, for a catastrophe whose approach is visible to all, is "socialism," by all means let us have it. And if the imaginative faculty is dangerous, let us live dangerously. The truth, of course, is that these arguments are merely smoke screens.

In this country are many who fear Government competition with private industry. Well, it took ten or more years to catch up with the last after-war mess, to which private industry contributed its share. Things move faster nowadays. If NRPB is to endure only as a skeleton—if its studies are to be scrapped—who is going to plan us out of another postwar mess? The need may come quickly.

By the time this appears, it may be too late to do much about NRPB funds. But if it isn't—and you can find out by looking at your newspaper—wire your Congressmen and Senators!

PLANNING AND HOUSING OFFICIALS MEET

New York Convention Discusses Mutual Problems

New York—The annual meetings of the American Society of Planning Officials and of the National Association of Housing Officials were held in successive sessions from May 17th to the 21st in New York City. Wilson W. Wyatt, Mayor of Louisville, was elected President of the ASPO. J. A. Fowler, Memphis, Tenn., was elected President of NAHO to replace Dr. C. E. A. Winslow who became a member of the board.

Actions Taken

A statement was issued endorsing President Roosevelt's request for additional $400 million to house migrant war workers. $600 million was suggested as a better figure considering the extent of the need. It was urged that the Lanham Act be amended to remove the prohibition against use of war housing for low-rent purposes in the postwar period. A resolution was adopted urging appropriations for postwar public works, continuance of national leadership for local planning agencies, and inclusion of urban redevelopment in postwar public works.

Beardsley Ruml, chairman of the N. Y. Federal Reserve Bank, and author of the pay-as-you-go tax plan, proposed a reorganization of the Federal fiscal and monetary policy to complement and supplement activities of private business as a postwar measure to combat unemployment. He declared it would be folly to expect business to make the war-to-peace transition without government help.

Charles W. Eliot, director of NRPB, gave probable figures for future housing construction. He expects 400 to 500 thousand dwelling units annually, meaning annual construction of at least $2 billion, in terms of 1940 prices.

Draft's Influence

60% of the men in war production areas who expect to be drafted within 12 months are married; many of their families will try to follow them to military areas, causing another type of housing problem, according to Coleman Woodbury, Asst. Commissioner of NHA. Another obstacle is the housing of women war workers now rapidly replacing men; they are more difficult to care for satisfactorily, but dormitory units are one solution.

(Turn to page 24, column 1)

CONVENTION DISCUSSES POSTWAR PROBLEMS

Raymond J. Ashton, F. A. I. A., Salt Lake City, Heads A. I. A. for 1943

Cincinnati—Postwar programs of housing, private and public building, and community planning were the chief topics of discussion at the 75th annual meeting of the American Institute of Architects, held here from Wednesday to Friday, May 26-28. The Institute's Committee on Post-War Reconstruction, headed by Dean Walter R. MacCornack, of M.I.T., presented its report on the rebuilding of large segments of American cities.

Raymond J. Ashton, F.A.I.A., Salt Lake City, was elected president of the Institute. Other officers elected include Walter R. MacCornack, F.A.I.A., re-elected vice-president; James R. Edmunds, Jr., F.A.I.A., of Baltimore, treasurer; Alexander C. Robinson, III, Cleveland, secretary. The regional directors elected are: Douglas W. Orr, F.A.I.A., New Haven, Conn. (New England District); Edgar I. Williams, F.A.I.A., New York (New York District); Professor Loring H. Provine, F.A.I.A., head of the School of Architecture, University of Illinois (Illinois-Wisconsin District). E. C. Kemper continues as executive secretary.

Opening Session

President Shreve presided at the opening session. Following messages of welcome from Standish Meacham, president, Cincinnati Chapter, A.I.A.; Ralph W. Carnahan, president, Architects Society of Ohio; and the Hon. James Garfield Stewart, Mayor of Cincinnati, the delegates listened to a report by President Shreve in which he pointed out that membership in the Institute had increased to a total of 3768. Membership affiliated through state associations bring the total to 6143.

F. H. Bosworth, Jr., F.A.I.A., president, National Architectural Accrediting Board, presided at the afternoon session, theme of which was "The Architectural Profession and War Service." Lt.-Col. Leonard C. Urquhart, C.E., Office of Chief of Engineers, discussed the general program of Army construction and pointed out that though the architect was the victim of specialization, the Army had found him invaluable in preparing new standards of construction. Though the immediate future was not too "rosy" for architects, the Colonel believed that when the war is won the services of the architect and his training will be utilized.

D. K. Este Fisher, Jr., Washington representative of the A.I.A., told of the work being done to further professional interests in the nation's capital. While official quarters acknowledged the performance of architects, too much stress had been placed on his artistic ability rather than on his many-faceted and technical training, he said.

One of the aims of the profession should be leadership in civic affairs, pointed out Brig. Gen. Henry C. Newton, also an architect, and now head of Combat Command B, Twelfth Armored Division. "Architects emphasize too much the esthetic side rather than the practical side," the General said, and urged members to keep a balance between the two. Since architecture is a business—the business of building well—it needs a campaign to sell the country on architecture as a sound business with a maximum of sound construction and a minimum of money.

The General suggested that what was needed was an architectural publication guided, published, and circulated by architects to every home in America to show what good design is and what is being done in the profession.

In order that the architect may keep abreast of times, Professor Walter T. Rolfe, University of Texas, suggested that he continue his education throughout his active professional life.

Other members of the teaching profession who discussed the architect's role in war service included Wells I. Bennett, president, Association of Collegiate School of Architecture. "The student's education is not complete when he is graduated," Professor Bennett said. In order to prepare students for the postwar era, most of the faculties are reviewing their curricula and integrating their programs with specialization.

Students should be taught an obligation to community and society, pointed out William G. Kaelber, F.A.I.A., of the National Council of Architectural Registration Boards. Recognition is obtained in ratio to the service the architect renders to the community. Mr. Kaelber also pointed out the need for more advanced and special courses after college.

Thursday Morning

The high spot of the convention procedings was the discussion of the architectural profession in the postwar era. The report of the Institute's Committee on Postwar Reconstruction was discussed by representatives of industry and planning. The Committee declared that most of the former concepts of city planning must be discarded after the war, and that "any comprehensive scheme for replanning and redevelopment must recognize the necessity for changing the point of view from the basis of the individual property to that of the locality."

"We are now struggling with chaotic conditions created by the mass of obsolete, obsolescent, and unrelated structures which overwhelm our cities and discourage the financing of new buildings on a huge scale," the report stated.

The Committee's report, issued in two parts, discussed the foundations for planning, and planning for urban redevelopment through group design.

"It is time for the profession to reserve to itself the dignity it should have as the custodian of housing and land development. Architects should keep in mind the fact that in the disproportionate relation of the incomes of users of housing to buildinfg costs lies the crux of the housing problem," the report continued. "It is for the architects to lead in a movement to cut housing costs all along the line, from cost of construction, partly caused by obsolete building codes, to the costs of land, of taxation, and of finance."

During the remainder of the morning session, and for the entire afternoon session, delegates discussed the type of architect participation in postwar planning. E. W. Babcock, of the Producers' Council, told of the work being done by the Council. The work being done in Los Angeles was described by Samuel E. Lunden, president, Southern California Chapter A.I.A. It was suggested by Karl Reimer that if the government wanted to siphon off buying power to stop inflation the architects and the Treasury Department should sell the public the idea of starting the planning of a future home now. Plans could even be paid for on a weekly basis and war bonds could be used to buy the lot and construction materials after the war. A well-developed recreation program was suggested by Summer Spaulding, F.A.I.A., in order that people may lead more orderly lives. John T. Boyd, of New York,

These men made news on the opening day of the Convention. From left to right: Brig.-Gen. Henry C. Newton, Combat Command B, Twelfth Armored Sivision; Richmond H. Shreve, A.I.A. president; James Garfield Stewart, mayor of Cincinnati, who welcomed the delegates.

Raymond J. Ashton, F.A.I.A., Institute president for 1943.

Here are some of the architects raised to F.A.I.A. at the convention. From left to right: C. Julian Oberwarth, Frankfort, Ky.; Edgar I. Williams, New York; Lemuel C. Dillenback, Syracuse, N. Y.; Arthur C. Holden, New York; Frederick G. Frost, Sr., New York. Others elevated to fellowships were: Leigh Hunt, Milwaukee, Wisc.; Sylvanus B. Marston, Pasadena, Calif.; Thomas M. Shaw, Boston; Francis P. Smith, Atlanta; Erle G. Stillwell, Hendersonville, N. C. Honorary membership was conferred upon Richard F. Bach, Metropolitan Museum of Art, New York, and I. T. Frary, Cleveland (Ohio) Museum of Art. Prof. Carlos Contreras, of Columbia University, was elected an honorary corresponding member.

suggested the distribution of a planning manual to the profession. Other speakers discussed urban redevelopment, case study methods, education. Albert C. Schweizer, Washington, D. C. chapter, now with the NRPB, told the convention that to be effective, planning must have an offcials nature. "The planning process is a continual thing," he said, "and not a blueprint."

"A sounder concept of land values will enable planning to be done on an economic basis," Alfred Bettman told delegates.

Annual Dinner

Louis LaBeaume, F.A.I.A., of St. Louis, acted as toastmaster at the annual dinner at which time the fellowships and honorary memberships and honorary memberships were conferred. The University of Cincinnati Gluee Club entertained the dinner guests. For his "distinct contribution to the profession of architecture," Charles T. Ingram, F.A.I.A., retiring secretary, was made a life member of the Institute at the dinner.

Final Session

At the last session on Friday morning, delegates took up such routine matters as approval of the Board's report, Treasurer's report, and the adoption of resolutions. The new officers and regional directors were then presented to the delegates.

"Serve Community": Ashton

Raymond J. Ashton, F.A.I.A., new president, said that architects have never faced a better opportunity for service than today. It should be the architect's business to talk more to the government and not about it. His main responsibility is to better serve his own community.

HISTORY REPEATS

The present convention marked the second time in 54 years that the Institute held its convention here in 1889, was hailed as the in Cincinnati. The last, held in Cincinnati in 1889, was hailed as the "Consolidation Convention" since at that time the eastern and western associations joined forces to form the present Institute.

ARCHITECTS VIEW CITY PLAN EXHIBITS

On exhibit during the convention were a series of studies prepared by J. Davidson Stephen, now on a fellowship at Cranbrook Academy, under the direction of Eliel Saarinen. The studies show the Detroit sphere of influence on the surrounding community and demonstrate how, by the organic decentralization of Detroit and southeastern Michigan, that area can accommodate a population of 5 million by 1990.

Also exhibited were some of the proposed rehabilitation plans for Cincinnati and the master plan of the City, County, State, and Federal Administrative Center in Los Angeles.

STATE ASSOCIATIONS

The position which architects must assume in the postwar era in the replanning and rebuilding of cities was discussed at the annual conference of State Associations held May 26. The question of unification took most of the delegates' time. Since there was a desire for complete unification, delegates resolved that the Unification Committee be continued and that it communicate with chapters and associations to receive further plans and suggestions to unify the entire profession. The Committee was asked to report at the 1944 convention.

PRODUCERS MEET

The construction industry's responsibility in the postwar era was discussed by members of The Producers' Council who held their 20th annual meeting concurrently with the A.I.A.

Speaking at the annual dinner held on May 26, Stuart M. Crocker, chairman of the Council's advisory board, urged the construction industry to engage intensively in advance planning activities since it must be prepared promptly to supply the requirements for materials and equipment needed in the postwar period because of "deferred maintenance, limitations on new construction during war years, and the expanding needs of a growing country."

The following officers and directors were elected: president, Douglas Whitlock, Structural Clay Products Institute; vice presidents, Russell T. Tree, Carcier Corp., and Gordon C. Hay, Fiat Metal Mfg. Co.; secretary, C. W. Stuart, General Electric Co.; treasurer, Irving W. Clark, Westinghouse Electric & Mfg. Co.

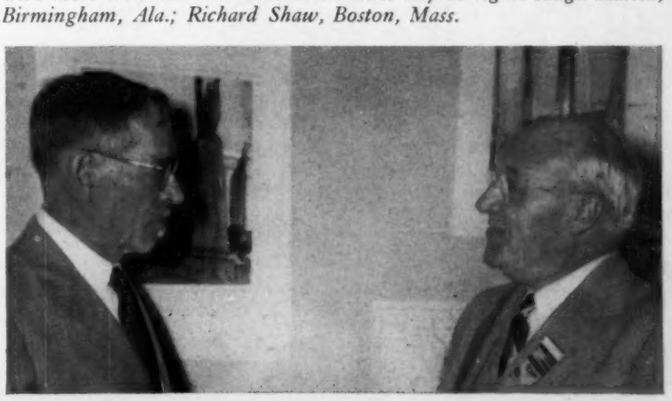
SLUMS ARE FIRST CONSIDERATION—BLACK

The first postwar planning job of our cities must consist of the formulation of a definite policy for the stabilization of social and economic values in the community, the area not only within the corporate limites of a city but, in addition, the surrounding communities which, combined with a city, comprise a metropolitan unit, according to Kenneth C. Black, member of the Michigan State Planning Commission.

OTHER MEETINGS

The emergency problems of the schools, as well as architectural education, practice, and registration were discussed in separate one-day sessions by the Association of Collegiate Schools of Architectural Registration Boards, and the National Architectural Accrediting Board. The N.C.A.R.B. held an exhibition of drawings submitted for design problems in architectural examinations of several states.

Two more architects who became F.A.I.A. Left to right: Hugh Martin, Birmingham, Ala.; Richard Shaw, Boston, Mass.



PLANNING & HOUSING OFFICIALS MEET IN NEW YORK

(Continued from page 21, column 4)

Government Help

Herbert Emmerich, FPHA Commissioner, stressed the reaching of lower and lower income groups with good housing, via private enterprise assisted by FHA and the Home Loan Administration. He said that permanent and demountable projects should be sold by the government to local housing authorities. Mention was made of the use of leased rather than purchased land for definitely substandard homes, to insure their being temporary.

New York State and City

Lt. Gov. T. W. Wallace spoke on N. Y. State postwar plans, and Mayor LaGuardia on the N. Y. City program. LaGuardia called for federal aid, plus state, county, municipality support, for a seven-year construction program to combat postwar unemployment. First appropriation would be, for planning only, $300 million. $900 million was suggested for the execution during the first postwar year and twice that sum for the following year; then a graduated reduction. He said the city had already appropriated $30 million for plans and that as soon as materials are available the program will go ahead on housing, schools, hospitals, parkways, highways, airport, and market.

Other News

Bror Dahlberg described the new pattern of life made possible by aerial transportation, shortened working hours, and excellent housing within the income of nearly all Americans, the latter element being dependent upon government assistance to overcome inadequate financing and out-moded building codes.

L. P. Cookingham, city manager of Kansas City, Mo., discussed the problems which war had brought to American cities, sudden population increases, shortage of materials, and of manpower, as well as financial burdens.

Mawley S. Simpson, research engineer of the American Transit Association, gave a picture of the unequal fight between largely increased carryings and slightly increased facilities, a ratio of 73 percent to 15 percent when using 1938 as a basis year.

Elizabeth Wood, Chicago Housing Authority, spoke for more practical planning to prevent vacancy losses, if not for more humanitarian reasons.

A trailer town, Victory Villa, Middle River, Md., was described by James E. Cody, manager. He told of its development from a community of 300 trailers into the third largest city in Maryland and explained the attendant problems. Provisions now include educational facilities, religious training, medical attention. In a contest for the best proposal for the organization and operation of a regional council on planning in a metropolitan area, the first prize, $200, was given to Dr. Harvey F. Pinney of New York University.

ELIEL SAARINEN AND PHILIP GOODWIN

Above are two architects who were present at a cocktail party given by Reinhold Publishing Corporation during the ASPO and NAHO conventions. The occasion was the publication of Mr. Saarinen's book, THE CITY, Its Growth, Its Decay, Its Future. Also present were: Charles A. Ascher, Frederick Bigger, Walter Blucher, Harold S. Buttenheim, Vernon DeMars, Arthur Holden, H. Evert Kincaid, William Lescaze, Robert Mitchell, Hugh Pomeroy, Antonin Raymond, Albert C. Schweitzer, Ladislas Segoe, Allan A. Twitchell, A. C. Walker, Ralph Walker, Samuel B. Zisman, and many other architects and city planners.

"STUYVESANT TOWN" RAILROADED THROUGH

Hearing Adjourned—then Predetermined Approval Announced

Severe Criticism of: No Schools; 400 persons per acre; No Public Right of Access; No Provision Against Race Discrimination; Residential Use of East River Frontage in Contrast to Adjacent Pier Use; Unseemly and Unnecessary Haste.

New York—A public hearing on the Metropolitan Life Insurance Company's project, "Stuyvesant Town," was held on May 19th by the City Planning Commission. The project is to occupy 18 city blocks, will have a population of about 24,200 persons, including some 6000 children. The buildings will be 12 story residential, over first floor garages.

At the hearing Mr. Ecker, Chairman of the Board of the insurance company, explained the background of the project and its approval by the Mayor and Mr. Robert Moses. He stressed the necessity for safety of investment, the hope that this project would keep people in Manhattan, that "it was to be the country in New York City," and that the Metropolitan was limiting itself to a return of 6% combined interest and amortization instead of a return of 6% above amortization as permitted by law.

Criticism of the project was on six points, without opposition to the project *per se*.

1. The density of over 400 persons per net acre. This density, if persisted in, would siphon off tenants from elsewhere in Manhattan, and would inevitably tend to create more blight.
2. The fact that the whole eighteen blocks were to become private property without any public right of access. The public can be excluded at any time. This in spite of the fact that the city is giving the project 504,000 square feet of streets, or 19% of the total site for nothing. The legality of this gift was also questioned.
3. The amazing fact that for a city of 24,000 people no school will be provided on the premises —the city will provide a school elsewhere.
4. The absence of any provision against race discrimination.
5. The use of a two-block front on Marginal Street for residence. This street borders the only place on the East River north of the Williamsburg Bridge where it is possible to have piers. It is essential for the city that it be kept. If the frontage is used for residence, eventually the force of a forty million dollar investment will be used to bring about a change of use more compatible with residence.
6. The unseemly and quite unnecessary haste in railroading through a postwar project of such magnitude and importance for the future pattern of the city.

These points were brought out by the Citizens Housing Council, Commissioner Binger, former Borough President Isaacs, Arthur C. Holden, Ralph Walker, George Hollett, among others.

In order to avoid the criticism which it received for its summary action at the May 5th hearing on the site, the Commission adjourned the hearing to eleven o'clock the next morning, when the predetermined approval was announced, Commissioner Orton dissenting.

As we go to press, the Greater N. Y. Industrial Council, C.I.O., urges rejection of the project; the Board of Estimate has accepted it; the Appellate Division of the Courts has granted a temporary stay forbidding further action pending argument on a property owner's motion to restrain the Board. Park Commissioner Moses said that the inclusion of a school would "destroy the integrity of the ground plan."

NEUTRA URGES COOPERATION BETWEEN GOVERNMENT & INDUSTRY

Sacramento—Richard J. Neutra, recently appointed Chairman of the California State Planning Board, has given a short summary of the work he feels his organization can do and must do without delay. He believes that the warding off of a postwar slump falls largely "in the lap of leading and well capitalized industries," "that part of a war industry's advance planning is the definite and very concrete study of peace-

(Continued on page 26)

Thank you, John A. Stewart!

PROMINENT NEW ENGLAND BUILDER CREDITS DRY-BUILT FULL-WALL STRONG-BILT PANELS WITH IMPORTANT SAVINGS

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March 24, 1943

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John A. Stewart, General Manager

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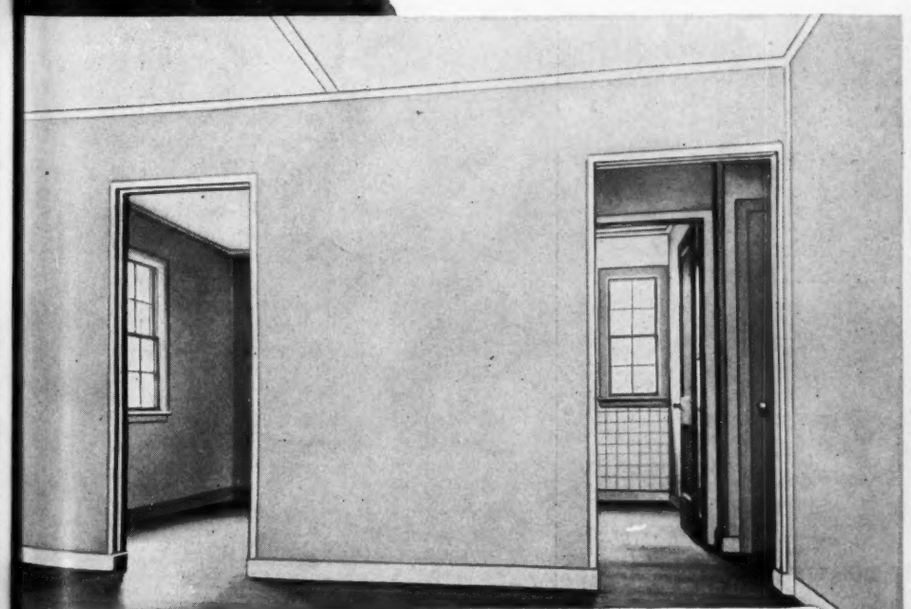

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WRITE for our quick-reference handbook on "How to Ship by AIR EXPRESS During Wartime." Dept. PR-1, Railway Express Agency, 230 Park Avenue, N.Y.C.

(Continued from page 24)

CONSTRUCTION SHIFTS FROM INDUSTRY TO HOUSING

Washington—$400 million more for housing was recently asked of Congress by the President to come under the Lanham Act. Private business, according to reports, is to get as much of this as it can take. The housing will accomodate over a million workers expected to migrate into war production areas in the 1944 fiscal year. One and a half million new units are called for, double the total number of houses built in the U. S. in a better-than-normal year.

The housing allotment will, if passed, approximately offset a construction curtailment caused by a recent WPB decision to stop further war plant construction.

WPB RESTRICTIONS EASED

Washington—A recent WPB amendment has eased restrictions on metal plaster bases. Manufacture for civilian use still is prohibited; the relaxation permits only use of bases in connection with metal reinforced insulation blankets and pipe covering, metal reinforced filters, and oil reduction equipment. The sale of metal plastering bases or accessories in the possession of any person prior to April 2 is permitted.

The manufacture and sale of rib-type metal lath is expressly permitted.

Restrictions have been relaxed slightly on manufacture of metal doors, door frames, and shutters. The order now permits manufacture of these items to fill orders bearing a preference rating of AA-5 or better, provided 85% of material required was put into process prior to September 26, 1942, or was in possession of manufacturer on that date, and is heavier than 24 gauge.

NEUTRA URGES COOPERATION

(Continued from page 24)

time conversion and realistically detailed preparation for immediate postwar production," that "government has not and cannot hire all suitable talent," that much of it, and the best, is on the payrolls of the industries themselves, and, under circumstances as they are, should stay there. But, he believes that "governmental subsidies, research staffs, and facilities shall be directed to collaborate on the preliminaries of conversion projects under joint sponsorship of the commonwealth and the industrial units best versed in these, their specific subjects."

A significant statement made by Neutra is: "Without insured continuance of production and stabilized postwar industrial employment markets, say in San Diego or in Los Angeles, no population trends can be forecast for these regions, and thus schools, branch libraries, utility systems, in short, public works of all kinds may prove to have been planned in a vacuum." He added that California's State Planning Board is ready to give concentrated attention to this urgent and formidable task.

(NEWS continued on page 28)

While the design and fabrication of strip steel framing systems remains a fundamental part of Stran-Steel's operations, the necessities of war have led this company into a still wider sphere of action. Present assignments for the armed forces involve designing and shipping complete buildings, ready for rapid erection on the site.

This is a military operation today, yet its peacetime significance is obvious. Stran-Steel can promise the post-war construction industry new economies of time, money and materials that follow naturally from wartime engineering developments.

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(Continued from page 26)

POSTWAR HOUSE SURVEY

New York—Parents magazine recently conducted a survey of architects, builders, and building supply dealers, a group that can do no more than make good guesses as to what the consumers themselves would choose, to determine not what type of postwar house people wanted but what price class house this group thought would be built in the postwar era. A far more accurate picture would have been achieved had the survey been conducted among actual future home owners. Anyway, the answers are:

60%...postwar house not over $6,000
26.4%..postwar house not over $8,000
68.8%..present type of prefabricated houses will not be acceptable
53.6%..bulk of future prefabricated houses will be built primarily of standardized units, assembled to suit individual's need
53.6%..prospective home owner will select from model houses
45.6%..prospective home owner will select from stock designs
33.6%..there will be more individually designed houses after war
45.6%..postwar houses will be without basements
72%...more one-story houses
55.2%..fewer attics
68.8%..fewer rooms in postwar houses
71.2%..dual-purpose rooms

ARCHITECT EMERITUS OF THE A.I.A. DIES

New York—The A.I.A. will mourn John Coxhead, 80 years old, who died May 25 at Brewster, N. Y. He was said to be the oldest member of the Institute. Not only was he well known for his church designs, but for many years he was designing architect for the U. S. Army Air Corps, and he also designed veterans' hospitals.

CHARLES L. BORIE, JR. DIES

Philadelphia—Charles L. Borie, Jr., F.A.I.A, died May 11, aged 72. He was Chairman of the Art Commission of the Smithsonian Institute and has designed buildings for the Philadelphia Navy Yard.

(NEWS Continued on page 30)

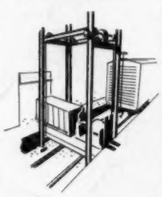
CORRECTIONS

On page 63 of the March issue there were included 4 small photographs showing examples of public and private housing in Chicago. The names of these projects were mentioned in the caption but the names of the architects were omitted. The architectural firm of Oman & Lilienthal was responsible for the design of the Marine Drive Apartments.

On page 52 of the April issue of New Pencil Points, credit should have been given to deYoung and Moscowitz, who acted as Consultant Architects on the site plan for Vanport City.

MONTGOMERY ELEVATORS
in future buildings

NEW BUILDINGS now being planned for future construction will make use of new materials and techniques developed during the war. "Electronics," glass pipe, new metals and special plywoods enter the picture. And in your plans where freight or passenger elevators are required, new problems arise. To assist you in solving these problems, Montgomery maintains a special "Elevator Planning Service." This "Service" developed the famous "Cross-Over" Bridge to meet a special transportation problem in plants divided by railroad sidings. Giant freight elevators with platforms 40′ long were developed for one of the nation's leading packers. In your specifications for new construction, be sure the name MONTGOMERY appears where elevators are specified!



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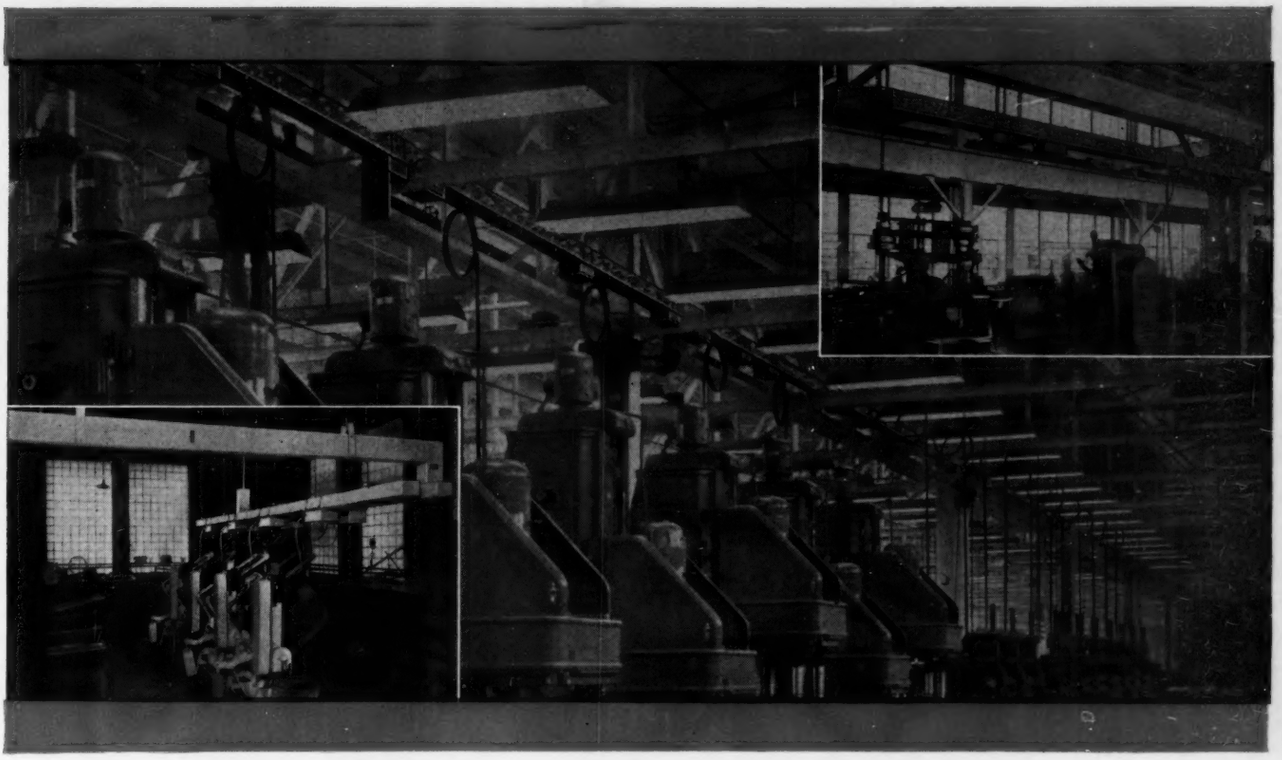

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(Continued from page 28)

FPHA LEASING—NOT BUYING

Washington—Policy is to lease, instead of buy, land for war housing projects, such leases running for "three years after conclusion of the emergency," according to a recent FPHA release. Millions of dollars in outlay now are saved and the job of removing these temporary projects becomes easier after the war, points out the FPHA.

URBAN LAND INSTITUTE PLANS

Washington—This organization has set forth certain proposals for postwar rebuilding of blighted city areas which rank high among similar plans being formed for this purpose. The 4 main points listed recently in one of their publications are:
1. Extension of federal credit..
2. Broadening of municipal land acquisition powers..
3. Redevelopment by private builders of land so acquired..
4. Income productivity as basis determining assessed value for taxation..

IN UNIFORMED SERVICES

Florida—In addition to the listing of architects in the armed services, carried in our January issue, page 14, the following Florida architects are reported in the armed forces: Lt. Kemp Caler (USNR), Capt. L. M. Dixon, (A), Lt. jg. Clinton Gamble (USNR), Capt. Curtis E. Haley (A), Ens. Robert Hansen (USNR), Lt. Wm. K. Jackson (A), Lt. Wm. E. Kittle (A), Lt. Paul E. Kohler, Jr. (A), Major Wm. A. McCarthy (A), Capt. G. M. Peek (U. S. Engineers), Capt. Sanford Pendergrass (A), Lt. Henry V. Pope (A), Lt. Edwin T. Reeder (USNR), Lt. T. Tripp Russell (A), Lt. Norman Skeels (A), Capt. Russell Skipton (U.S. Engineers), Major Loyd F. Vann (A), Capt. Robert Law Weed (A), Lt. Earle V. Wolfe (A).

AWARD FOR DESIGNING NAVAL BASES

Washington—Albert Kahn Associated Architects and Engineers, Inc., Detroit, has been awarded a certificate of commendation for "devotion and unswerving fidelity" shown in its vast program of naval base construction.

LOWTHORPE SUMMER COURSE

Groton, Mass.—Joseph Albers of Black Mountain College, formerly of the Bauhaus, is teaching a four week summer course in Design and Freehand Drawing from June 21 to July 16 at Lowthorpe School.

BEAR HEADS A.F.A.

Washington—Albert G. Bear, A.I.A., Chief of the Specification Sub-Division of the Technical Division, Construction Service of the Veterans Administration, has been elected President of the Association of Federal Architects.

(Continued on page 104)

Reflections On The Convention

Returning from the Annual Meetings of the architectural professional organizations at Cincinnati, we are conscious of mingled feelings of disappointment and satisfaction—disappointment at so little apparent on-the-spot accomplishment by the meetings themselves (partly because canny anticipatory action by the A.I.A. Board of Directors had taken the steam out of some of the controversial issues); satisfaction at the evidence presented by delegates from all parts of the country that the architects of each locality are digging in on the home front and getting somewhere on the matter of community design and Postwar urban rehabilitation.

Men from city after city told us of planning studies initiated by architectural groups and of active collaboration by architects with the planning authorities and civic officials of their own home towns. This is highly encouraging, for it shows that architects are now more fully awake than they have been to the broader responsibilities they bear to the society for the service of which they exist. It further shows that they now propose to demonstrate to the public, by deeds, the leadership which has so often been vainly proclaimed by mere words. It is a sound method, which we hope will be followed more and more widely.

The meetings themselves rolled smoothly along—perhaps too smoothly. On the first day the architects listened with evident approval to a succession of speakers who told them in no uncertain terms what was wrong with the profession and its organization. In flagellant mood, the delegates enjoyed the expert castigation of Brigadier General Newton (architect!) and several others. Perhaps they felt that they had already repented of their sins and were well ahead of their critics on the road to reform—but at any rate no voice was heard in their defense.

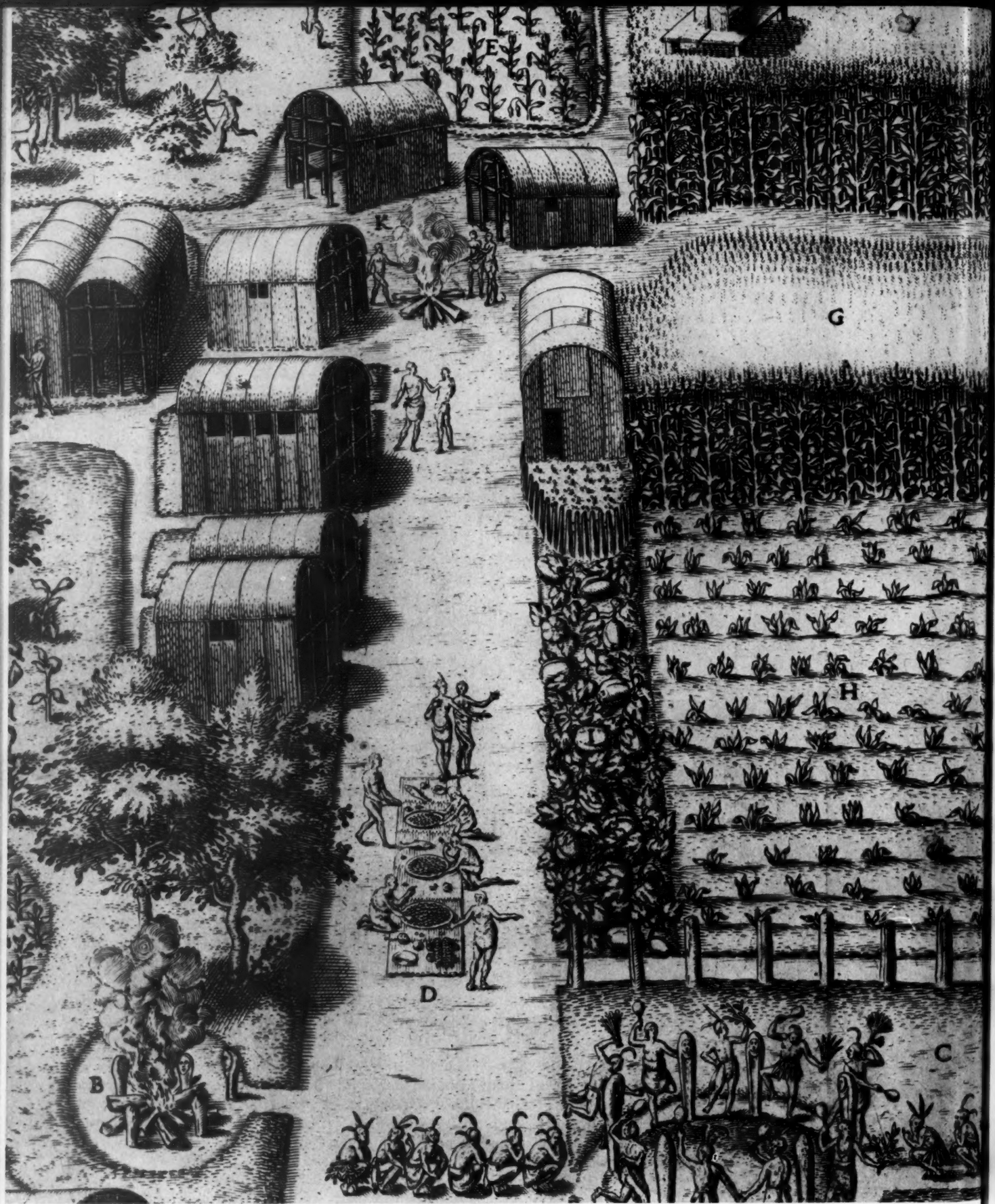
The second day was largely devoted to postwar reconstruction with discussions built around the able report of the A.I.A. committee led by Walter MacCornack. Here, too, there was little disagreement in evidence as the unscheduled speakers responded informally one after another to the Chairman's bidding—and one felt that, again, the audience was well out in front of its exhorters.

Adjournment came about noon of the third day after the Convention had passed in record time all the resolutions presented, and then staged a moving demonstration of brotherly love and harmony among architects as the retiring officers stepped out and the incoming administration took over. Almost before they realized it, the delegates were set free to enjoy the sight-seeing facilities of Cincinnati.

It was not until sometime after, so smoothly had things proceeded, that some of us became conscious that the occasion had passed without any particularly ringing declaration of positive principle, any inspiring act of vigorous professional leadership. It is a matter of regret to us that, though the group unanimously endorsed the proposal now before Congress to extend the authority of the National Capital Park and Planning Commission over the planning of the entire District of Columbia, it failed to come to the aid of the much more vital National Resources Planning Board, now fighting for its life before a conference committee of the Senate and House. It is a pity that the NRPB, which has perhaps made a greater contribution than any other government department to the preparation of plans for the postwar emergency, and which has initiated and conducted most valuable researches in the field of urban and regional planning, should not have been strongly supported officially by the national organization of a professional group so predominantly concerned with the need for planning. We urge that individual architects and local groups make up for the lapse by applying independent pressure on Congress to lay aside political attitudes and consider the welfare of the nation in this instance.

The new A.I.A. president, Raymond Ashton of Salt Lake City, was, before the meetings, an unfortunately unknown quantity to us, and to most members of the profession. He was accepted on faith, through the recommendations of people who knew him. His brief address of acceptance gave us a clue to his character. We sized him up as a fighter who will be tenacious in maintaining the standing of the profession, particularly in its relations with government. He announced a determination to do battle against bureau architecture. "Stop talking *about* your government and talk *to* it," he advised. Applied with sincerity and genuine devotion to the public welfare, this policy will have the support of most architects. We hope it will be carried through with wise discrimination between good bureau activity and bad, and not become a blanket condemnation based on generalized thinking. (It seems to us infinitely more important that the architecture be intelligent than that it shall be produced under any particular kind of set-up, public or private.) We believe Mr. Ashton will be a good president. We wish him well!

Our hosts, the architects of Cincinnati and of Ohio, made our stay in the "Queen City" a delightful one. We thank them sincerely and we know we are joined in this by all who enjoyed their thoughtful hospitality.—K. R.



"Secota," an Indian Village in Virginia; from deBry's "Great Travels," 1596 (Bettmann Archive). The unfortified village gives evidence of the well-ordered, peaceful life of the large Indian population before the European invasion stirred up strife, disease, and degradation. These primitive Nissen huts stood close to the present defense area at Portsmouth.

they never spoke latin.'

by Douglas Haskell

I

Viewed in the light of thirty thousand years and in the face of one hundred and thirty million people there is something ungenerous and incomplete about what we call our "American architectural tradition."

There are two vast realms of human action which the term at present largely ignores. One is the realm embracing all but a tiny fraction of the *time* during which mankind has existed in America, and the other all but a tiny fraction of the *people*. One is the primitive, the other is the popular, and in both instances those concerned never spoke Latin.

Suddenly, through the war, we are beginning to see around us structures that have no recognizable resemblances to our "tradition" at all. We are getting a succession of hut-like, igloo-like, domed, barrel-vaulted shapes that seem to have little to do with either the gabled boxes that make up one side of our residential building tradition or the porticoes with variations that make up the other.

The first impulse is to lay it all to chance resemblances, but closer examination shows that the new trend is based on anything but chance. In part, the Army in its Nissen huts and other huts has arrived at a shape by way of strict economy, but in part by deliberate imitation. The hard-headed and practical-minded Quartermaster Corps has been laying its hands on every competent explorer and ethnologist it could get, in order that our boys fighting on primitive frontiers such as Alaska might be taught the "primitive" people's more adequate instruments and stratagems of survival.

Will this all blow over with the fighting, and can we then return undisturbed to our old habits? On technical grounds alone, this is to be doubted. But the interesting question is, if some of these ancient ideas are now suddenly proving useful, are there other good ones to be had where these came from?

II

There were roughly thirty thousand years throughout which this Continent was inhabited by people who never spoke Latin. They entered moving eastward and not westward. On first arrival they are said to have found a virgin paradise, encountering animals now long since extinct; mammoths and elephants, a variety of camel, bison larger than the buffalo, and wild horses whose very memory had wholly disappeared long before the westward moving Latin-speakers brought with them the culture of the horse as a new marvel imported to America from Europe.

This earliest settlement disposes of our one-sided concept of America as a country colonized wholly by westward migrations. Curiously enough, our Continent itself began life as a wanderer. When it came to rest, having slid away from the Eurasian land mass on its own global voyage, it stayed as a long lean wedge between the Pacific and the Atlantic, and was destined ever thereafter to be open to a two-way, not a one-way, commerce. The state of technology, not geography, dictated that America would be colonized from Asia millennia before she was colonized from Europe. So the entire "primitive" population, both North and South, descended from those who crossed by that same Alaskan gateway which is now again supremely fateful for the Continents. The first "American" culture was in consequence not Latin but akin to the Mongolian; it was, so to speak, Chinese. It is said to have sprung from what was then the well-watered Gobi Desert. Not until a scant four hundred and fifty years ago, a mere pin-point in time, was there the shift which has, momentarily, made American culture so dependent on Europe.

On the face of it, anyone, no matter how "retarded," should be able, after living in one area for some thirty thousand years, to tell something useful about doing it. But our forefathers didn't

The light-weight barrel-vault frame, built like a basket, is shown, on facing page, in a medicine lodge of the Winnebagos, at right, in an Army Nissen hut, and below, in a Pan-American Stratoliner. The form is as old as it is new. In the Stratoliner, as a full-round barrel, it helps resist interior pressure. In every instance it is light in weight, strong, and continuous.

Acme

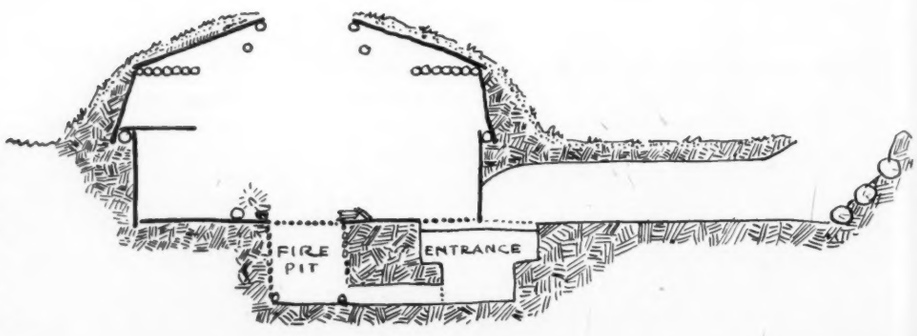
think that the Indians could; and even the more enlightened architectural historians are still silent on the *North* American Indian; but then, our forefathers were almost perfectly conditioned by circumstances not to appreciate anything that pertained to the savage Red Man.

III

One of the products now being shipped to Alaska you have seen advertised; a hut of barrel-vaulted shape, composed of lightweight, prefabricated, laminated frames covered with a quilt filled with one of the modern types of lightweight insulation. The finished form is closely allied to the primitive snow house or the ubiquitous wigwam. It can all be carried compactly in a plane, will withstand wind and cold down to temperatures of 65° below zero, and saves its own weight several times over because it requires so little fuel. This little type of hut represents a fruitful wedding betwen the most advanced forms of scientific technology and the most intuitive kind of aboriginal adaptation.

It can instantly be said that such a hut is lacking in too many prerequisites to serve permanent needs when the emergency is over. Yet in looking at the contribution of the aborigines to our civilization, the very *absence* of certain complicating features is most helpful.

Thus the Eskimo houses of the more permanent kind have struck a perfectly remarkable solution to the problem of heating and ventilation, just *because* they pay so little attention to our own obsession with windows. Evelyn Stefansson describes houses at Barrow Point: *"When driftwood was plentiful they were made of wooden frames covered with earth to such a thickness that the house was practically cold-proof. They were entered through a long alleyway by a door that was never closed, even on the coldest night of winter; the ventilating hole in the roof was open, too, assuring constant ventilation through the house. A dwelling large enough for two families (in one room) needed only three medium-sized seal-oil lamps to keep the temperature at 80° or 90° in daytime, which dropped to 60° or 70° at night."* When these Eskimos tried shifting to European houses with their prestige and drafts, there was promptly an epidemic of pneumonia.



On this page the cause, on the opposite page the result: section through Eskimo Men's Lodge, showing a remarkable ventilation system by means of air traps both for the entry-way and for the draft to the fire pit. People entering by the subterranean passage drop down the steps and then come up inside with help of a handrail. Copied from Edward S. Curtis, "The North American Indian."

Bettmann Archive

Now the narrower, purely European, tradition was never able to find this ventilating solution for the reason that it has had a fixation on the opening and closing "window." Not until a group of bold architects in the neighborhood of Chicago began treating the sacred window as a mere fixed glass panel in the wall, were ventilating devices struck that worked simply, letting in fresh air without upsetting the whole balance. After using such devices, operated independently of the window, in the cold climate of Lake Placid, the author himself can testify that their efficiency is far superior. Doing this is not "modern," because the Eskimos have been doing it for lo these thousands of years: it is far older than the ventilating window in terms of the true, long-range, American building tradition!

IV

Indian habitations have been so generously libelled that it is a temptation to diverge into a description of some of their hidden excellence. There were good reasons, for example, why the beautiful Blackfoot leather tipi—"transparent, like parchment, and very light inside"—was neither smoky nor drafty. The combination of efficiently-burning fuel and management of the vent did away with smoke, and in winter an inner lining of buffalo hides neatly converted the wall into a flue carrying the draft up overhead. But these things are not the point. No one in his senses would try today to copy an Indian dwelling. The point is, rather, that they achieved at the primitive plane what we are still achieving so badly at the civilized plane.

For example, it never seems to have occurred to the Indians that you just have to have a lot of weight, simply to give the *appearance* of adequate stability. One of the most recent models of prefabricated housing has relied on what we call "bridge" framing. Support being concentrated in a few heavier posts connected by girder-like beams, the rest of the wall can be a mere curtain, a sort of sandwich-board of insulation. The remarkable cedar houses of the Pacific Northwest suggest variations of the idea. The Indians quite regularly depended for the main chassis of a large dwelling on just four stout posts carrying two full-length beams acting as purlins. In the accompanying illustration both the walls and the roof are just long wide boards holding up

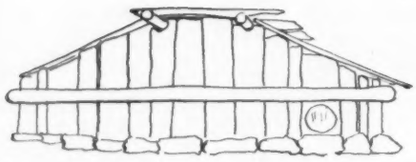
Bettmann Archive

Plenty of warmth: a result of the ventilation scheme diagrammed on the opposite page. (An Eskimo family, sketched by F. Nansen.) Fresh air at temperatures up to 80° or 90° with only two or three oil lamps. Modern architects of Portland and Chicago have derived the advantage of this ancient tradition with the aid of the most modern treatment of fixed windows.

nothing but themselves. In other examples the boards, running either vertically or horizontally, have been combined into a lightweight panel by being thonged to poles just stout enough to act as aligners.

The prefabricated house just mentioned is strictly modern. Yet its designer need only point to the Indian house of the Pacific Northwest to demonstrate that he stands safely in a venerable tradition. He has picked up an old American idea that was accidentally lost to sight during the four hundred and fifty years in which we scorned the original Americans.

The Indian use of materials cannot be said to have been a uniform triumph from our own present standpoint. And yet they used a remarkable variety with a degree of thought that produced success where we calmly assume that there was failure. Apart from ordinary lumber, brick, stone, and the primitive adobe cement, they had equivalents for most of our up-to-date processed materials such as plywood, vegetable fibre, sea-weed, and quilted insulation. Here is a partial list:



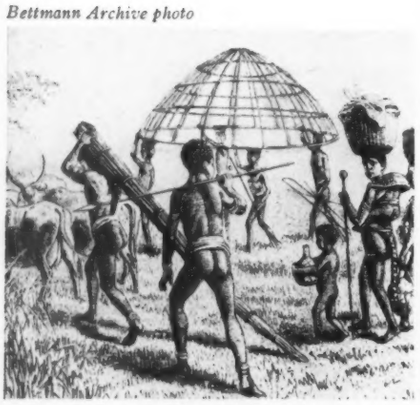
Hupa cedar house on the Northwest Coast, from Edward S. Curtis, "The North American Indian." One of many different ways in which primitive builders used the principle of the lightweight curtain wall independently of a heavy stiffening chassis, as in recent designs for prefabrication.

elm bark	parchment
birch bark	fur-lined snow
mats of: rushes	well-insulated stucco
grass	wood-fibre insulation
palmetto	(via spruce boughs)
thatching	brush

They were quite innocent of the idea that, no matter what you start with, you are sure to end up with good old brick and wood, just because these were favored by a small band settling in New England. Whoever ultimately succeeds in perfecting the ideal synthetic processed wall may find it handy to remark that, throughout thirty thousand years, wood and brick were far from sacred in the American building tradition.

Often it is not just the fact that a great variety of materials were used, but the *way* in which they were used, that tantalizes the modern-minded observer. We civilized people possess no good intermediate form of dwelling between the straight tent, good only for camping, and our more permanent forms of living quarters. The minute we start building trailers and the like by our elaborate processes, the question comes up whether we might not as well be done with it and build a "house." The primitive portable dwelling was intrinsically better. Whether made as a conical tipi or as a domed wigwam, at its best it was better worked out than our own tents, and yet could be rolled up and carried by dogs in the manner of the travois. In order to carry ours, we generally have to build still another full-sized house in the form of a huge truck, or else we need at least a special trailer.

Bettmann Archive photo



Africa, Asia, Europe, Australia as well as America have used the portable primitive dwelling with variations. In Africa the frame was moved intact.

The quilted Army tents now being developed in Alaska point back in the earlier direction, assuming that some designing genius can deftly reincorporate such features as windows. Yet if such a form, assuming its success, is to receive the peacetime blessings of the FHA bank clerks, we had better hurry up now and get the thirty thousand years of Indian experience adopted into the official "American tradition" as a handy precedent.

One of the most curiously neglected primitive arts, of world-wide distribution, was the building of a dwelling as you build a *basket*. As the illustrations show, it was used not only in Buckminster Fuller's favorite example of the Mongolian yurt but on the African veldt and right here in America, from the Atlantic to the Pacific, and from the Arctic to Patagonia. We are getting there again, by way of the airplane. Its spars are built on the same good old lines, and maybe we shall even go beyond, when we have mastered monocoque.

But if ever the method gets applied again, as the primitive Americans applied it, to a respectable house, we are going to have to contend with the narrow present day convention. So, again I say, it is time to incorporate the first thirty thousand years of American life into the accepted tradition.

V

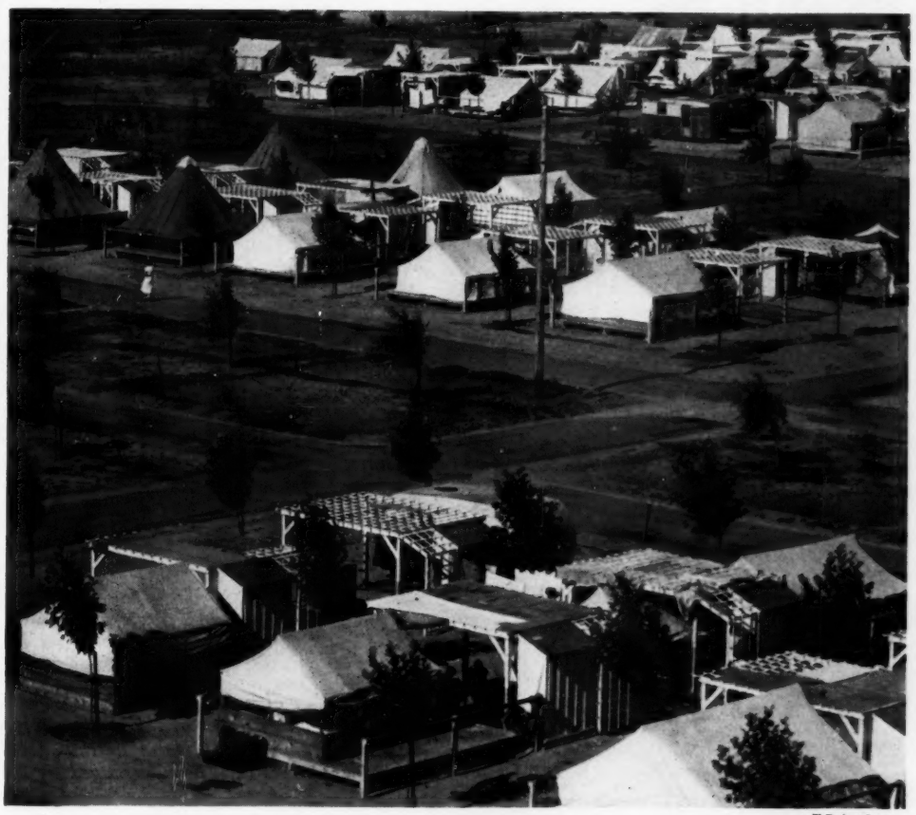
In its attitude toward house shapes and uses, the thirty-thousand-year tradition of the primitive American was somehow more catholic than the four-hundred-and-fifty-year tradition of the Latin-speaking one. Early travellers told of the Indian villages using, as a matter of course, two or three radically diverse types of dwelling, according to purpose. An illustration is herewith reproduced, showing the conical parchment dwelling, the tipi, in the foreground, and the gabled bark-covered lodges behind. The tipi was not only the portable dwelling but in Indian terms it was also the winter home, being tighter and more compact and therefore warmer. Yet in the same village there could be three distinct dwelling types: gabled log cabins copied from the white frontiersmen, conical tipis, and the large flattened round-top of the ancient earth-lodge. Indian arrangements were far too casual for our eyes (*"my entry shall point northward because my god is the bear, and the entry of his den points northward, and he may remember me"*). Yet the vocabulary of shapes was intrinsically so rich that a fine architect would find rewarding life-long occupation in mastering it.

Indian earth lodges have received scant attention, largely because of the crude photographs used by our ethnologists. These do about as much justice to the subtle form as your favorite house receives from snapshot amateurs. Once someone has resurrected for general use the splendid photographs taken by such men as Edward S. Curtis, the formal art of these earth lodges will strike as a revelation.

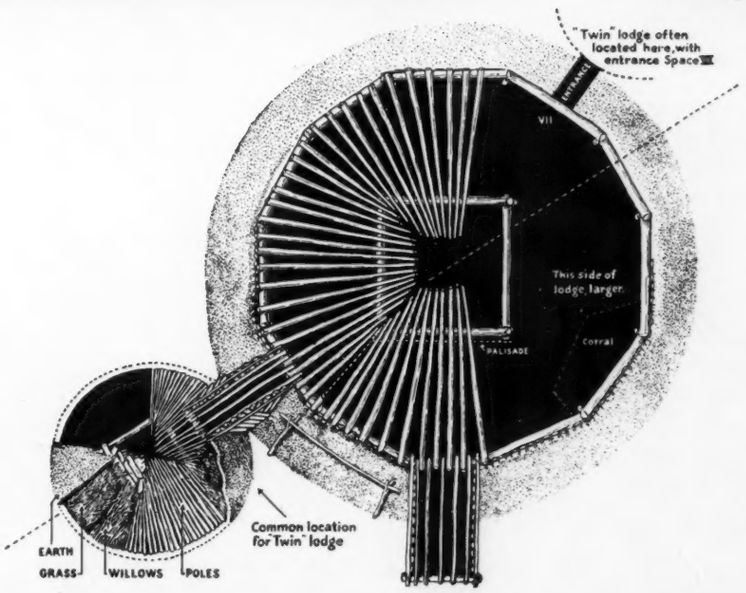
Happily some of the remaining lodges of the Hidatsa have been measured and drawn under

Bettmann Archive photo.

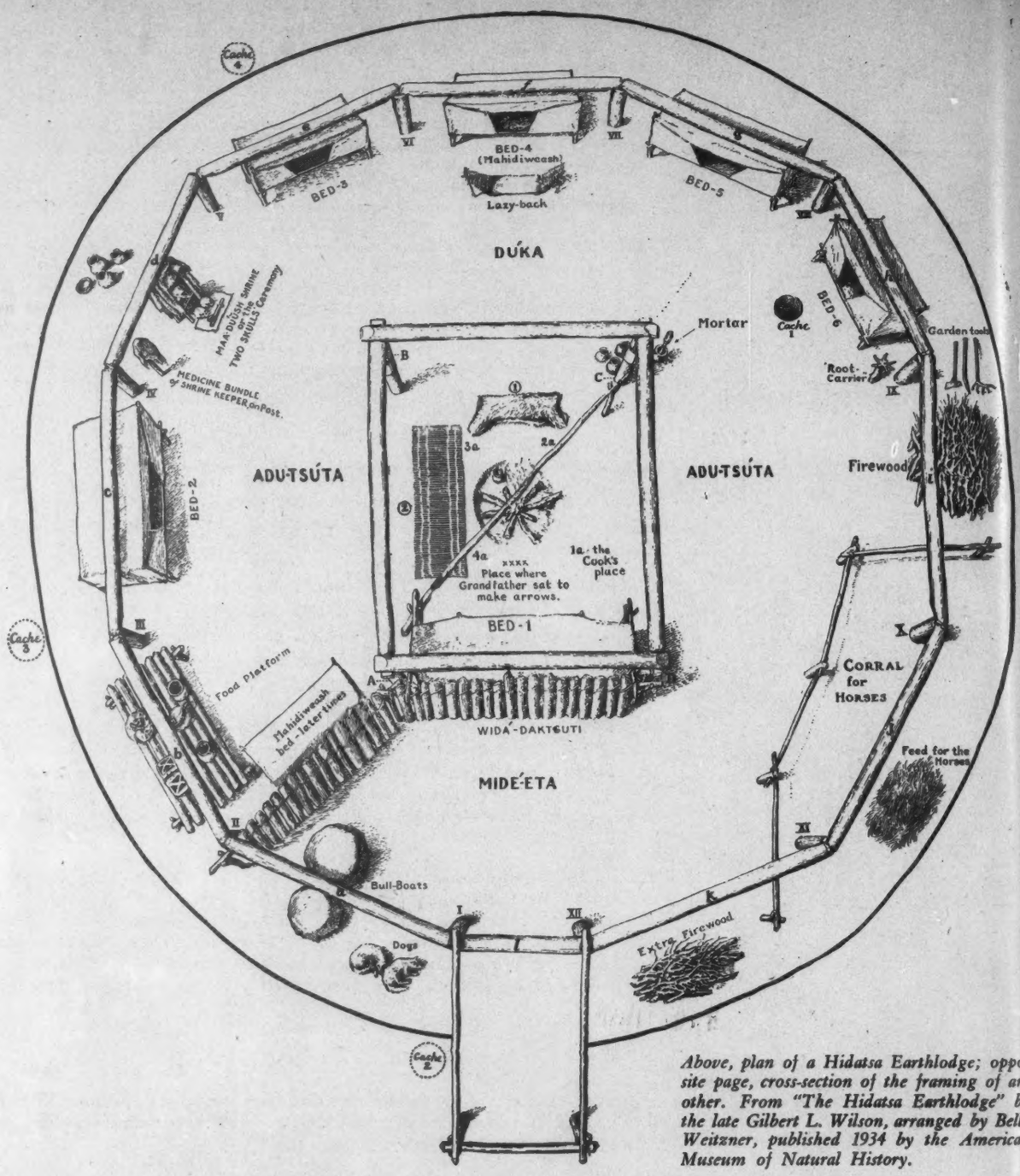
"The primitive American was more catholic toward house shapes that differed according to use." Dakotah Village, showing gabled forms with flat storage platforms. Conical tipis and mound-like lodges sometimes completed the scene. The modern version is an FSA camp at Shafter, Cal., shown in center. Drawing of Dakotah Village by Seth Eastman.



FSA photo



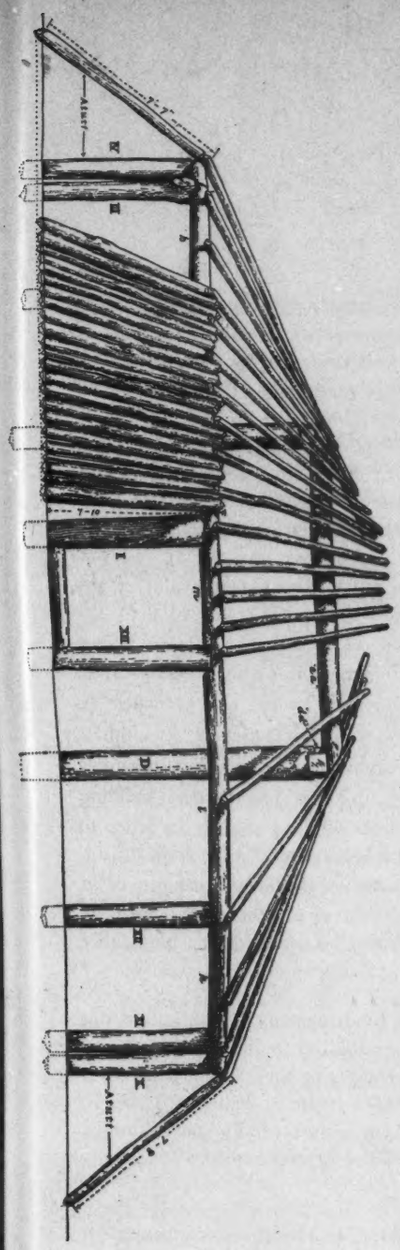
Hidatsa earth lodge (American Museum of Natural History); page Martin Wagner, Buckminster Fuller, Wallace Neff. Dozens of primitive plans have been devised all around the world for multiplying round or oval rooms. (From "Anthropological Papers, Vol. XXXIII, Part V," American Museum of Natural History.)



Above, plan of a Hidatsa Earthlodge; opposite page, cross-section of the framing of another. From "The Hidatsa Earthlodge" by the late Gilbert L. Wilson, arranged by Bella Weitzner, published 1934 by the American Museum of Natural History.

Bettmann Archive photo

A large hall, forty-five feet across, with commodious arrangements and ample storage space. The poles were covered with transverse willow branches, a thick layer of grass, then sod. The streamlined shape was rebuilt every seven to ten years under planned obsolescence. The interior is of a related Mandan lodge, drawn in 1832 by Carl Bodmer on travel through the Missouri country with Maximilian, Prince of Wied.



direction of the American Museum of Natural History, and one or two diagrams are reproduced by permission. The Lord forbid that this lead to a series of copies. The subtle transitions from one to another form, the calculated framing, the streamlined cunning shape so secure against the weather, are brought into the record merely as an antidote to the one good order which is corrupting our world—our complete reliance on the rectangular Colonial box.

Strictly scientific calculation may conceivably, some day soon, lead a contemporary designer to a superficially analogous mushroom form. But not all the science in the world can convince our censors that there is validity in what, to them, is such a freakish shape. Let him then spread before them, as "precedent," the Hidatsa Lodge. It served mankind faithfully throughout a period of centuries. Its gloomy dignity covered vast open spans, in some instances (Pawnee) reaching to 60 feet. It was ample enough to allow tethering the horses inside (against theft) and the plethora of usable storage space, reaching all the way around the circumference, would be a modern housewife's passionate envy. Light shone down into it in a manner that produced intense human drama. Even the flat top, in the more polished examples, served as a splendid outdoor grandstand, ages before Le Corbusier, for witnessing the human spectacle. If human experience extending throughout the ages counts for anything, the earth lodge, used not by one tribe alone but by a whole series of tribes, ought to bear testimony to the "traditional" right of a modern scientist to lay hold of such a wide deviation from rectangular shape.

VI

It is in the field of transportation that the primitive culture was most strikingly carried on by popular culture, and the two groups of non-Latin-speakers made a contribution which often surpassed the contribution, and corrected the errors, of the educated.

"Viewing the history from 1630 until 1870," says Dunbar in his monumental *History of Travel in America, "it seems as though the clearest perception of the significance of events and of public necessity was found not in the minds of those whom history names as the leaders of men but in the collective understanding of the multitude."* But this in turn rested on the earlier experience: he says, of the Indians, *"in going across country they had a wonderful facility for establishing routes that were, in the economic sense, the best that could be chosen . . . Practically the whole present-day system of travel and transportation east of the Mississippi, including many turnpikes, is based upon, or follows, the system of forest paths established by the Indians hundreds of years ago."* Amusingly enough, the Indian was indebted to a still earlier inhabitant; according to G. K. Warren, who explored the Dakotas a hundred years ago, in unfamiliar country *"the Indians always follow the buffalo trail, for this animal always selects the most practical route for his road."*

Closer study of Indian habits might mitigate some of that combined scorn and fear with which sociologists today descant upon the peril of popular migration, and might show the needlessness of some of that fierce passion for morality with which city regulations are visited upon trailer camps. The nomadic way of life is fully capable of developing an orderly expression of its own, and the idea that it is essentially predatory is based on prejudice. The Nazis among the Indians were not the roving tribes but the Iroquois operating out of permanent villages.

VII

These few scattered and inadequate remarks on the submerged "p-cultures"* of America, the primitive and the popular, are intended merely as a very modest effort suggesting the need of a thorough-going larger investigation.

Despite their isolation of thousands of years, the North American Indians did not behave in a manner that was altogether unique. Their primitive habitations echo forms found literally all around the world; these were more than international—they were universal. They have been studied and documented by such thorough scholars as Oelmann; but it is possible to treat such works as merely dead documents, instead of realizing that wherever need has been met by human ingenuity and imagination there is always a chance that the result may, millennia later, either suggest to the mind, or else support, a right solution.

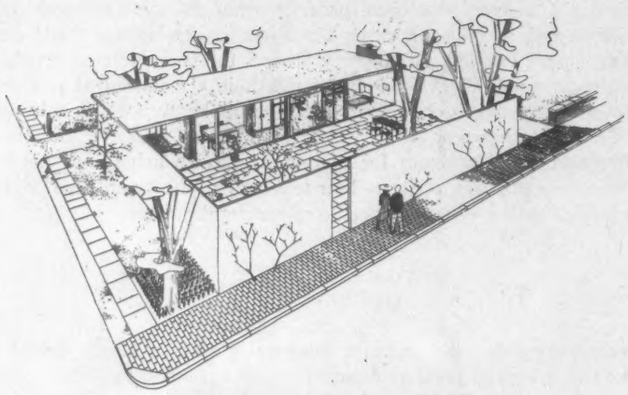
As for popular contributions, such as those of farmers and carpenter builders, it is fine to see how many efforts are beginning to be made to put this resource to more conscious and systematic use.

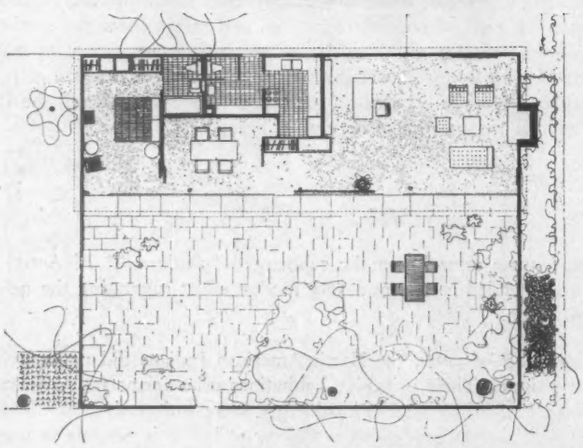
To summarize: it would be a misrepresentation to say that the argument herein is that we must drop our Latin-school education and live like savages. Science *is* our guide. But our science is not free. We are constantly being boxed in by the custodians of our *immediate* past, arrogating to themselves the name "traditionalists." Traditionalists is what they are not.

The appeal to the broader tradition is an appeal against the arrogance of our present-day medicine-men who, from behind their Doric columns and their monkey-cages, would insist upon burying us forever in that one little Colonial box. Are we living inhabitants not entitled to at least as much freedom as the aborigines?

* Page Mr. W. H. Richardson, whose Caesar-like division of British society into 3 parts, p-men, c-men, and d-men, in the *Architectural Review*, suggested this idea.

Notes on Patios





House in Cambridge, Mass. (Philip Johnson, owner and architct.) It stands in an old residential district, quite near Longfellow's home. A 9-ft.-high wooden fence assures privacy and keeps out the wind. Permission for erecting the patio wall was asked after completion. Note intimacy of rooms in relation to patio.

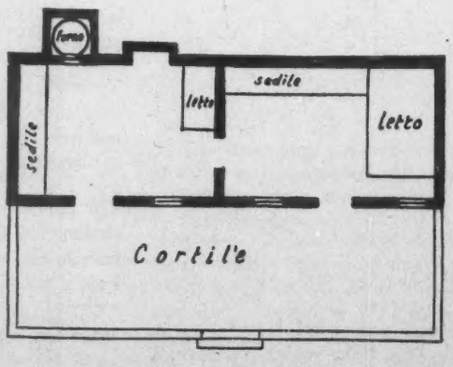
A perfect counterpart of the Johnson house—in a less sophisticated way—is the peasant's house at Patmos, in the Dodecanesian Islands, which is shown to the right.

The first thing European settlers built in this country was a stockade—a form of structure which contained the elements of patio architecture. Unfortunately the life of its inhabitants was so busy they could not exploit the possibilities of such buildings. Life has been busy since, and we have lost interest in good living. Some trends of the belated modern movement in architecture have made a point of re-establishing comfort and ease of living, matters which have been deplorably curtailed by pseudo-esthetic and commercial considerations.

It would be interesting to estimate what resale value, if any, there is in the house shown at left, which was built by Mr. Philip Johnson for his own use in Cambridge, Mass. (While Boston had already, in the venerable Gardner residence, set somewhat of a precedent in patio houses, that particular example was built on a heroic scale, foreshadowing its ultimate use as a museum; it is, architecturally speaking, definitely imitative architecture.) Mr. Johnson had to defy building regulations and the sentiments of good citizens in order to accomplish his goal. The house has merits aside from utilization of an exceptional construction method. It has proved in one year of use that the existence of a patio in what we have called an unfavorable climate is not only feasible but highly desirable.

That this type of house is fundamentally sound, and is not derived from any particular building traditions or local materials, is best evidenced by comparing the Johnson house with the strikingly similar peasant's house at Patmos. There is, of course, a gap between them, geographically and culturally, yet the solution for quite different requirements is basically the same.

The patio is one of the oldest architectural contrivances. It can be found in every great civilization. Today it is in evidence in Latin America, North Africa, Europe, and in the Near and Far East. With the anglicization of North America it became extinct in our Southern states. Of the charming examples in New Orleans, where patio houses were introduced by the French, some dilapidated specimens have been preserved by enterprising innkeepers and philanthropic societies. In California the Spanish version of the courtyard degenerated



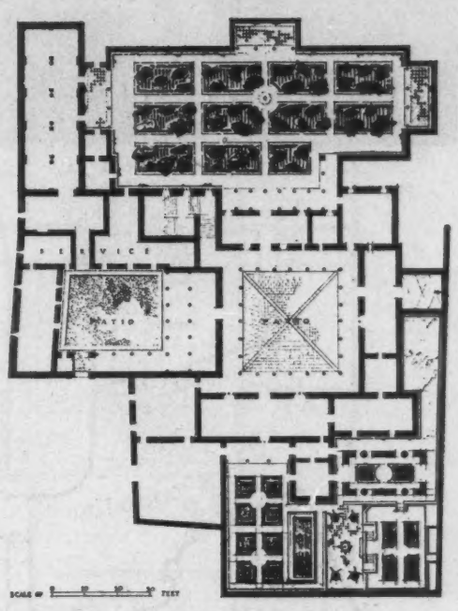
into a kind of stage setting for musicals. Today only this degenerate form of decoration comes to mind when the word patio is mentioned.

The present generation of California architects tries to reintroduce courtyards in the form of sheltered gardens, rather than as true patios—which are essentially *rooms* without ceilings. A radical development from this charming architecture is H. H. Harris' house for Mrs. Pauline Lowe, built about ten years ago. In all its disarming simplicity it represents an exhaustive study of the house for modern mankind. Mr. Harris has testified as to his efforts: "This would be my first and last executed project . . . it must be a summation of all I had ever thought or felt about life and architecture." The Lowe house was not his last executed project. However, seldom has an architect reached a more sincere expression of his ideals; and, looking back after ten years, the house remains one of his greatest achievements.

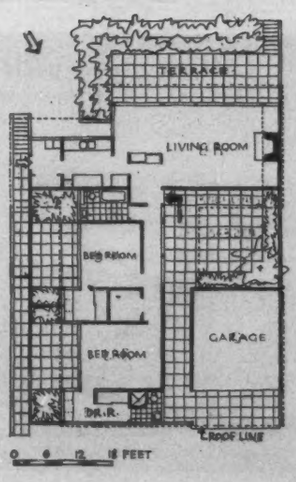
The significance of this modest work of architecture was overlooked, perhaps because it represented neither as a whole nor in its parts anything suitable for copying. The construction is stripped to its bare essentials; the austerity of the house is almost Oriental. As does the Johnson house, it lacks the outer dress to which our civilization attaches such exaggerated importance; the architecture is merely a shell for the life of its owner. And yet, while it is hardly noticeable in its unobtrusiveness, it is offending to Western sensibilities. The patio, we are warned, is unsociable and thoroughly un-American.

Evidently the patio idea is incompatible with the customary front porch institution. The contemporary American (or Englishman for that matter) can hardly be accused of being introspective. His complete freedom from want of privacy has led to a peculiar form of dwelling: the suburban home.

Though the suburban house was developed mainly to compensate city dwellers by providing them with the minor blessings of country life, the precious quota of land alloted to it is ingeniously wasted. The small strip which is not used up in building potentially has every chance to become a garden, were it not always split unhesitatingly into a front

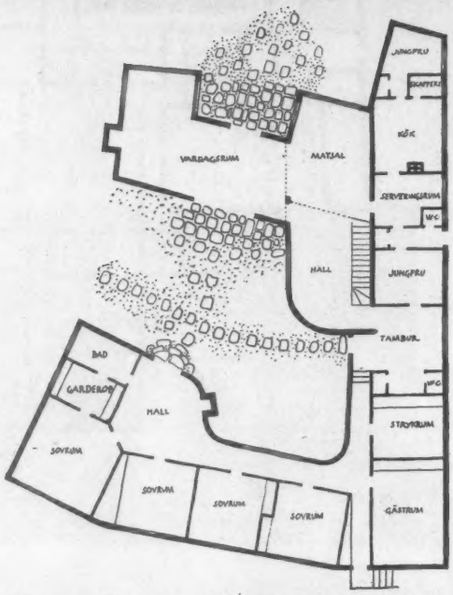


Typical Spanish example of patios and gardens used to break up a compact plan.

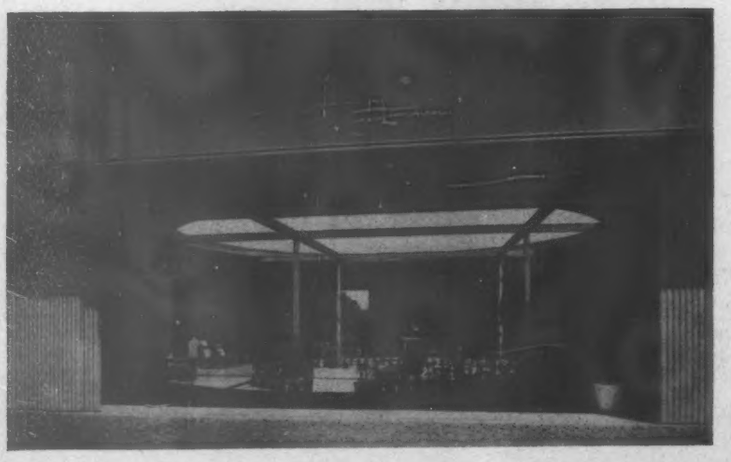


House for Pauline Lowe in Los Angeles, by H. H. Harris and Carl Anderson. Despite its smallness this California house provides the living room and each bedroom with an adjoining outdoor room at no sacrifice in privacy.

Though the house won an award in a nationwide competition, it has, astonishingly enough, so far not been an inspiration to builders and prospective clients.



This house, with its peculiarly shaped patio, was built in Sweden and was designed by Josef Frank, architect.



Though the outdoors when architected in the Spanish style has a flavor of its own, the modern version is not less charming. The partly covered atrium shown here can be opened by means of a sliding wall. The house, designed by William Wilson Wurster, AIA, will soon be published in NEW PENCIL POINTS.

lawn and a back yard. The front portion, tiny and disconcerting in its hundred-thousandfold repetition, is a mere buffer between the home and the parked family car.

It has been maintained that the front porch is the perfect expression of sociability. This is true as long as the present form of crude social intercourse is considered satisfactory. However, genuinely sociable gatherings are unthinkable without intimacy.

The increasing mechanization of professional activities makes life more and more unsatisfactory to the discriminating person, and has brought about a divorce between work and recreation. It has been forgotten that under more fortunate circumstances these apparently opposite types of activity merge into one. Furthermore—commercially available entertainment has advanced to a point where it has the effect of dope rather than of a stimulant.

Recreative efforts at home have likewise shrunk to mere play of hardly adolescent character. The mental food supplied by newspapers and cheap magazines has not improved with the advent of the radio. Considering everybody's right, if not desire, for adequate privacy, the radio has recome a calamity and nuisance of the first order. Legislation has not kept pace with the need for protection of a minority of sensitive people. It is quite characteristic that the most sublime form of home-made entertainment, the making of chamber music, which is an integral part of life in some countries, is lacking here. The absence of creative musical life is an index of general spiritual poverty.

Though these things may seem to have nothing to do with architecture in the accepted narrow meaning, they necessarily come in as cultural factors which determine the way of life. The residence has been, and still is, viewed by architects and laymen alike as an inanimate thing, as if it could be detached from the life of its occupants. (This is also the way in which architectural magazines present houses to their readers.)

But the vague esthetic viewpoint is not the one from which houses, furnishings, and all the objects which go with them should be approached. Neither is the economic viewpoint the only determining factor. Psychological circumstances in-

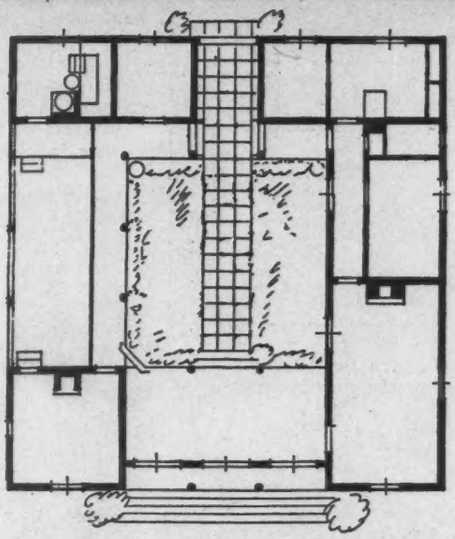
deed are the ones which have to be given predominant consideration. The things with which man surrounds himself are, contrary to appearances, less and less determined by practical considerations, but have become symbols of man's striving for higher social standing. The prevailing trend of sales techniques reflects this strife to perfection.

Architects can find an indication of how their dream of a prosperous postwar era might disintegrate in the fact that the planning—or should we say the designing?—of houses, both custom-made and mass-produced, is slipping more and more from their hands into those of the industrial designer, who will be more successful not only because of his training in advertising methods but mostly because he is completely unburdened by any knowledge of architecture.

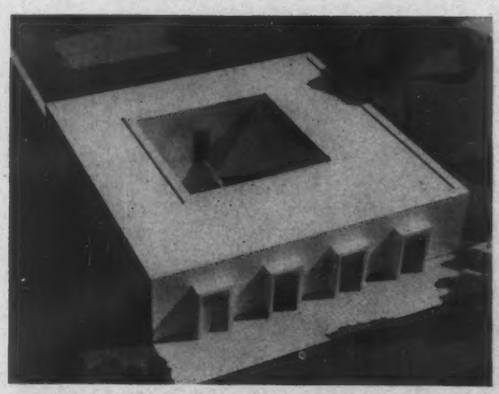
The first decade of industrial design was hailed as an epoch of wondrous achievement. However, unrestrained redesigning has sometimes given results just as nauseating as those of any previous industrial decade. While the shapes of tools and weapons are and probably will stay satisfactory, the streamlining of vehicles has too often been fraudulent. The former never needed advertising; the latter were restyled each year to promote sales.

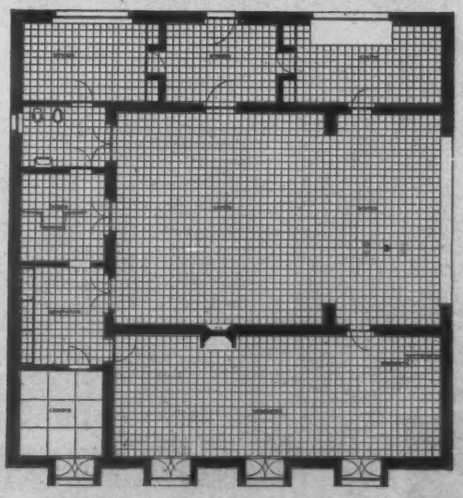
A similar development is to be expected in the field of domestic architecture. Popular and professional magazines confirm this trend. But further mechanization will not improve living standards. One need only think of the incongruity between the magical modern kitchen and the melancholy gastronomic results. Irony will have it that the Arab's meal, cooked in the desert over dried camel manure, is incomparably superior. Without the necessary instinct for cooking the electric kitchen may be relegated to the importance of its cousin, the electric piano.

Houses like the examples shown on these pages undoubtedly are not yet acceptable to many people. Though they were not built to advertise the means or aspirations of their owners, these owners will probably be accused of having feudalistic notions. Yet it seems to an unprejudiced bystander that, in a way, they contain the germ of a human and more civilized architecture. *Bernard Rudofsky*



Patio houses are by no means confined to subtropical zones, as this Finnish example proves; architect: Oiva Kallio.





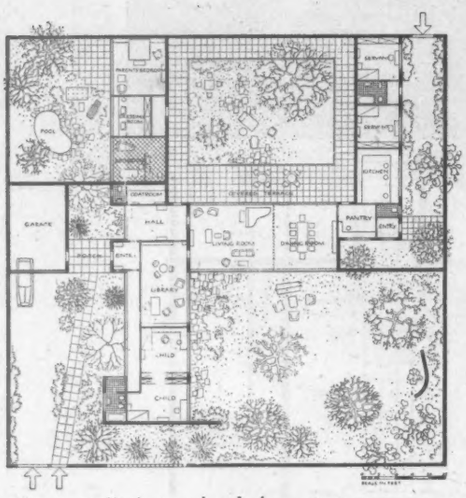
This house, on a Mediterranean island, is organized similarly to its Nordic counterpart; architect: Bernard Rudofsky.

Corridors were not necessary. The paved patio, whose temperature can be controlled by means of a sun-sail and an outdoor fireplace (as well as by spraying water on the floor tiles), is actually the living room. The dining room, though covered, is open toward the patio and the garden.

Three Patio Houses

Bernard Rudofsky, Architect

João Arnstein House, São Paulo, Brazil



Above, preliminary sketch for a square lot; below, model of the final version

This house stands in the residential district of South America's foremost industrial city, which, unlike American cities, is smokeless and windless. São Paulo has the same tropical latitude as Rio de Janeiro, but a comparatively high altitude of 2500 feet has a most beneficial influence on her climate. Patio houses are far from being the rule in both cities; they are, in fact, unheard of. Building regulations, often dictated by real estate corporations, prevent them from becoming popular. In the Arnstein house, a strip of property 25 ft. deep had to be wasted to comply with regulations.

The design is as informal as that of a peasant's house. The plan developed from the owners sincere desire for a maximum of privacy. The architect tried to attain the advantages of a country house within the limits of a city lot. Both owner and architect were indifferent to the outside appearance of the house.

From the model collection, Museum of Modern Art. Photo: Soichi Sunami

P. C. Scheier photo

The basic idea of the Arnstein house is explained in the picture above. It shows a sequence of outdoor rooms; behind the closed door in the background is another garden containing a nursery. The stuccoed walls are of uniform treatment on all four sides of each garden. The garden floor—so to speak—is composed of red tile, soft stone, and varieties of moss and blue grass. The ceiling is suggested by sun sails and pergolas, rustic and carpentered. Thus, by varying light-, temperature-, and humidity-controlling means, perfectly conditioned settings are achieved for the different hours of the day and the transitions of the seasons.

Rudofsky photo

All rooms are at a single level, reached by an ascending drive. There are also a children's entrance, and a gate on the north side which leads to tennis courts and a swimming pool. An unusual arrangement is the servant's wing flanking the entrance (see photos on page 53). This would not be conceivable in the United States because of noisy servants and their blaring radios. The arrangement turned out to be very practical considering the peculiar Brazilian delivery system. Food is handled by individual dealers and is deposited like mail in boxes at the gate.

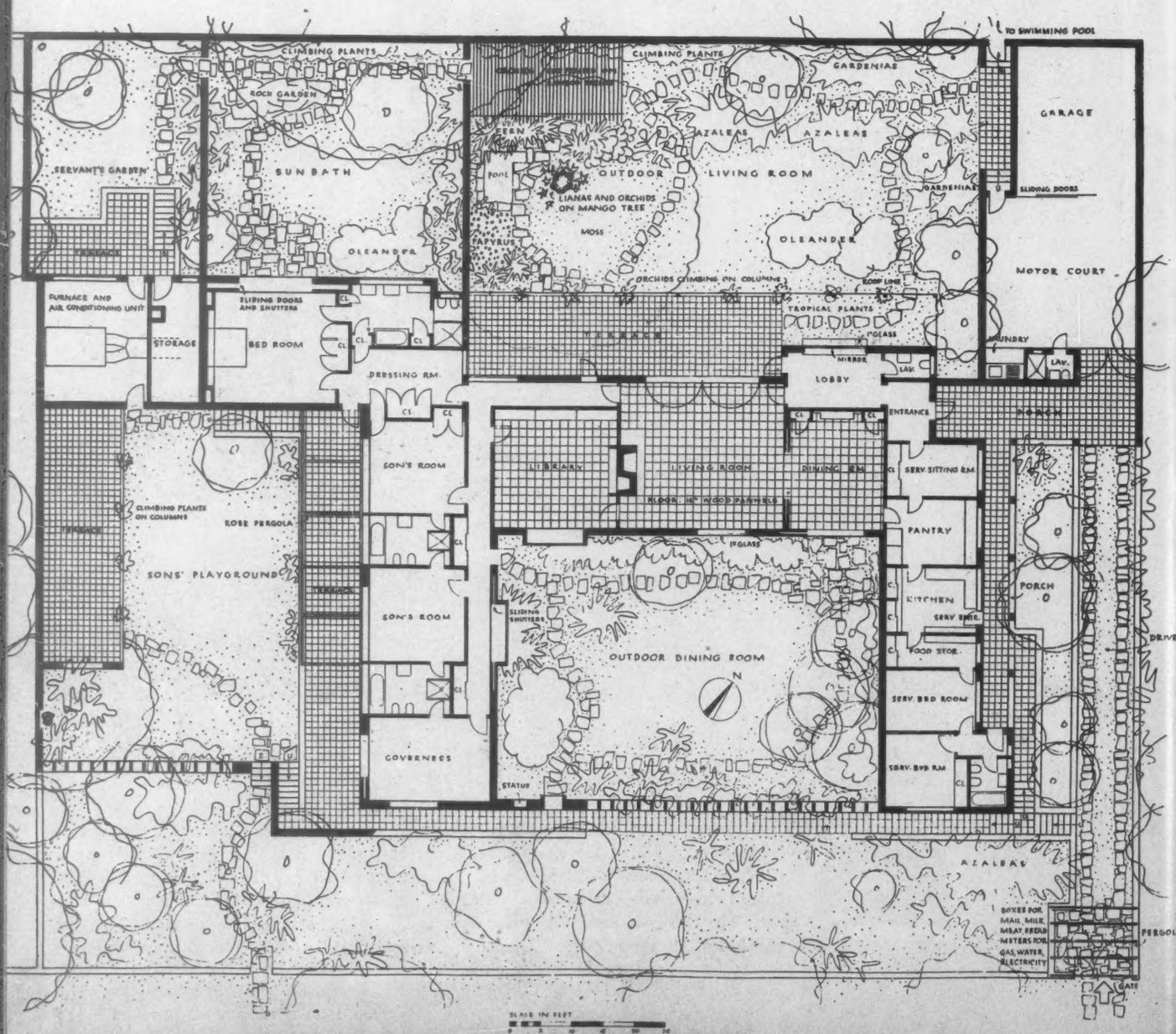


Photo: P. C. Scheier

Photographs on this page show the 75-foot-long porch which borders the largest of the gardens. The surrounding walls are of the same height throughout. Living room doors are sliding, while the 1-in.-thick glass panels shown in the small pictures are stationary.

The air conditioning system is used mainly for controlling humidity, and is only necessary during the height of summer.

Photo: G. E. Kidder Smith, A.I.A

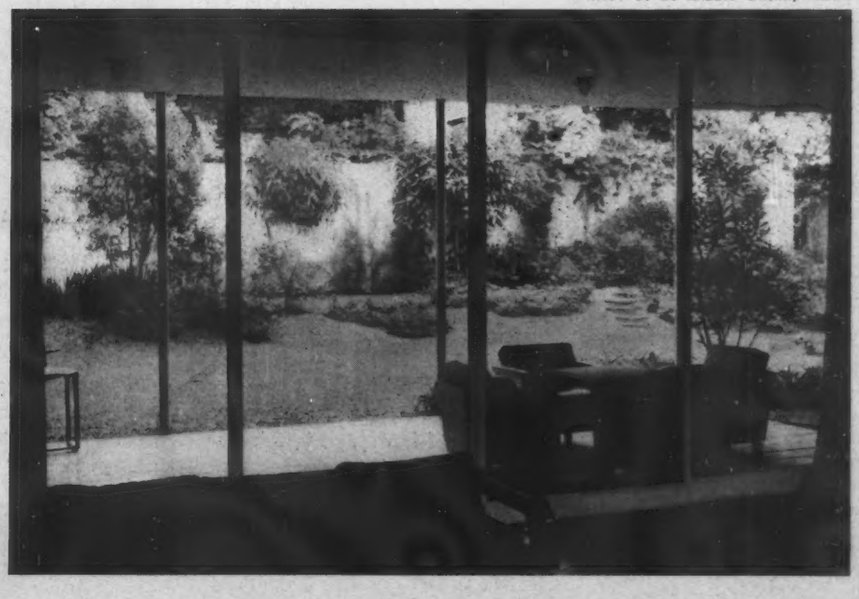
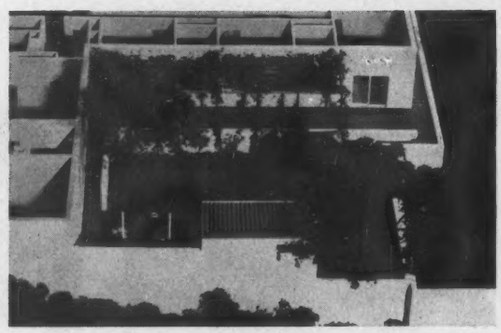


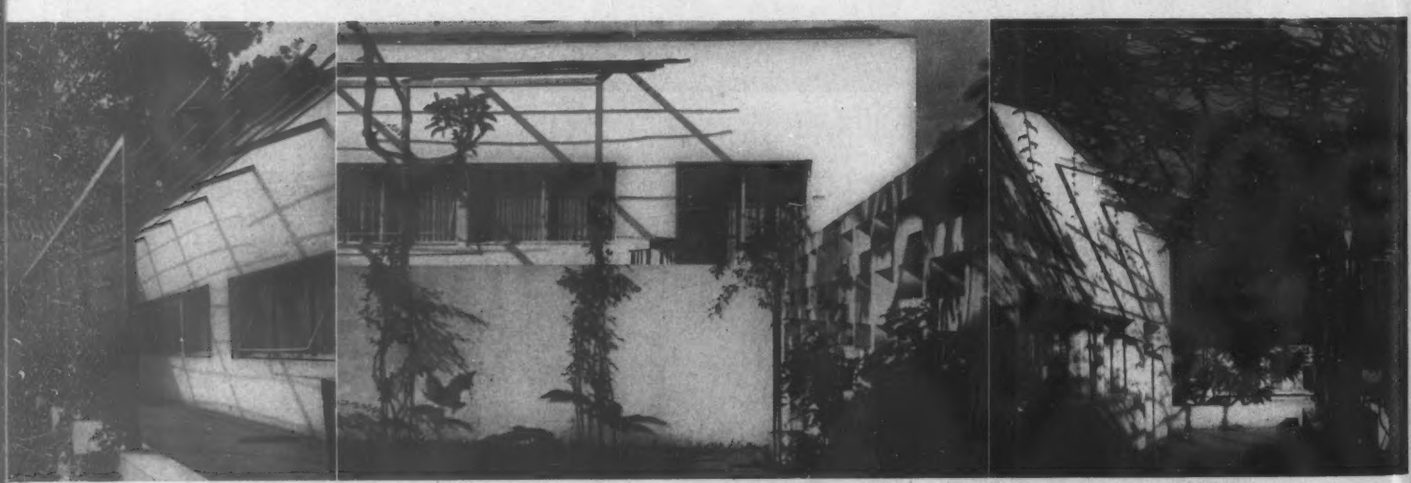
Photo: P. C. Scheier

Photo, G. E. Kidder Smith, A.I.A.



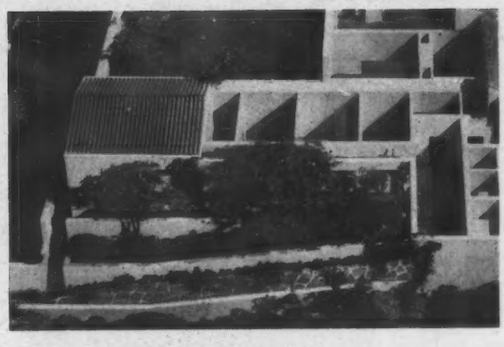
The two pictures at top show part of the southern patio on which the dining room opens. The square living room window (top of facing page), reflecting a corner of the patio, is a fixed, 1-inch-thick panel. The bay windows have 3-foot-deep reveals faced with Roman travertine, and are provided with heavy, sliding, wooden shutters.

The partial view of the model on the opposite page shows the servant's wing. Two retaining walls, a portico, and an abundant growth of trees and shrubs separate kitchen and pantry from the driveway, yet permit the servants to watch the delivery gate and the approach to the entrance.

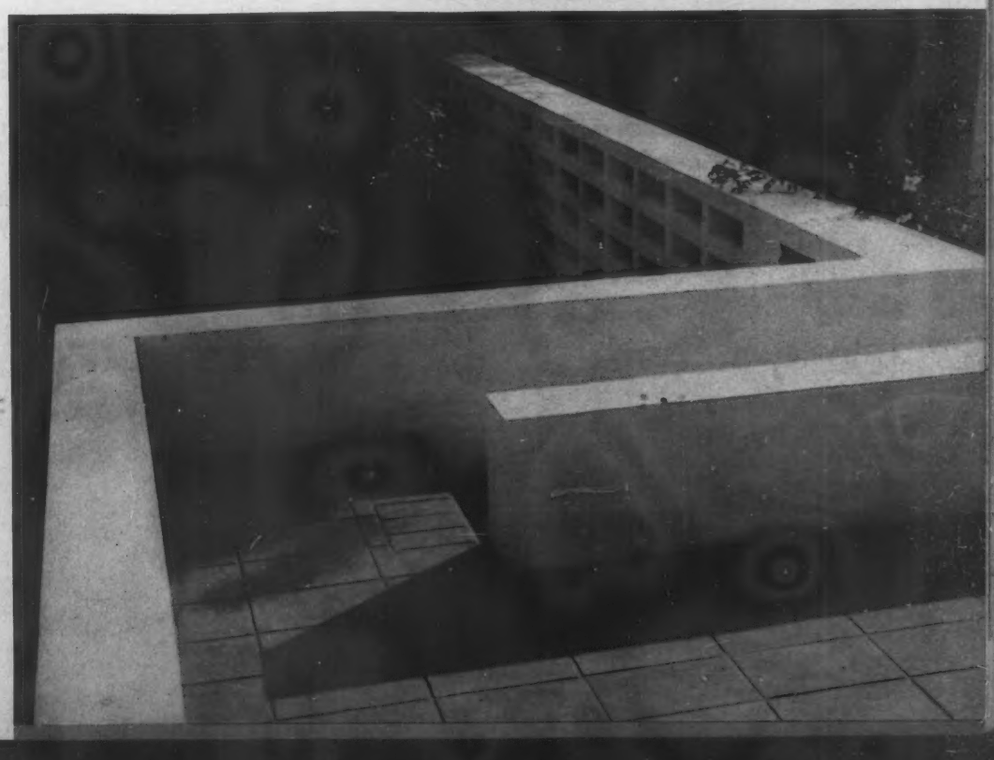


Above are three views of the rose pergola in the children's patio, of which a better idea may be had from the picture of the model, above.

Photographs at the extreme right of the facing page show the servant's wing as it looks to the visitor and details of the perforated patio walls.



Model Photos: Soichi Sunami



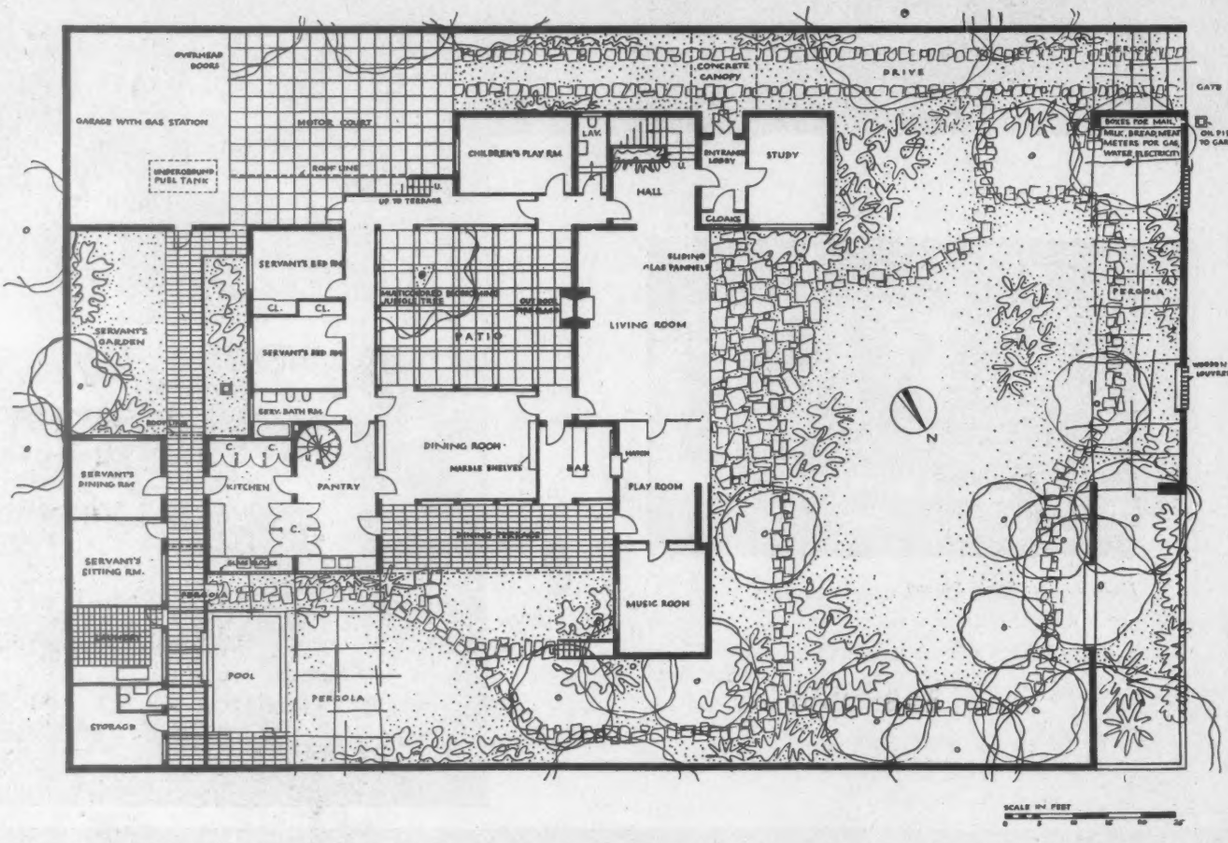
Rudofsky photo

Virgilio Frontini House, São Paulo, Brazil

Philip L. Goodwin, AIA, who visited two of the houses illustrated here when collecting material for his book and exhibit on Brazilian architecture, was asked by the Editors to give his impressions of them. He says: "Rather than comment on each of these houses separately, I would compare them as two solutions for moderately large houses on generously spaced property in São Paulo.

"The Frontini house is almost centrally located on a piece of land surrounded by a wall punctuated in the front by certain openings and setbacks, which relieve the dryness of a straight line wall. In the center of the two-storied house is a patio which provides a shaded space and light to the surrounding rooms and corridors. The Arnstein house, on the other hand, although similarly surrounded by a wall, is not as much set back from any one of its boundaries. Its various wings and projections face on semi-enclosed gardens, each of them facing out on the surrounding property or street. There is no interior court.

"Both of the houses have an unusual amount of privacy. Also, both of them make use of tropical trees and plants to the greatest advantage. For a purely living quality, the Frontini house seems to me to work better. The servants' portions of the house are conveniently placed and the bedrooms on the second floor will get more air and view. The privacy and seclusion of the two gardens is adequate. The Arnstein house has an almost overpowering charm



in that each room seems to have its own garden, and the interplay of indoors and outdoors in a semi-tropical climate is used to the full. Also, the color of red tile roofs, and loggia floors above and below one-story walls of ivory stucco, is a pleasing variation.

"The detail throughout both of these houses is remarkably good. Metal sash, garden wall openings, materials of floors, etc., leave nothing to be desired. There is a pleasant harmony of everything, a quiet certainty which is infinitely satisfactory compared to the assertive, sometimes strident, and very uneven efforts of some of our contemporary house-designers. They are the living places of people sure of themselves by education and experience, designed by one who understood both them and his job thoroughly."

Basement

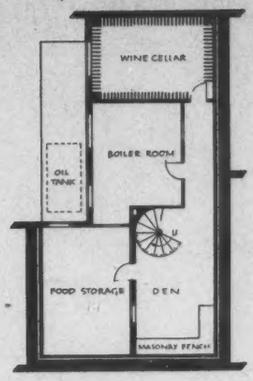
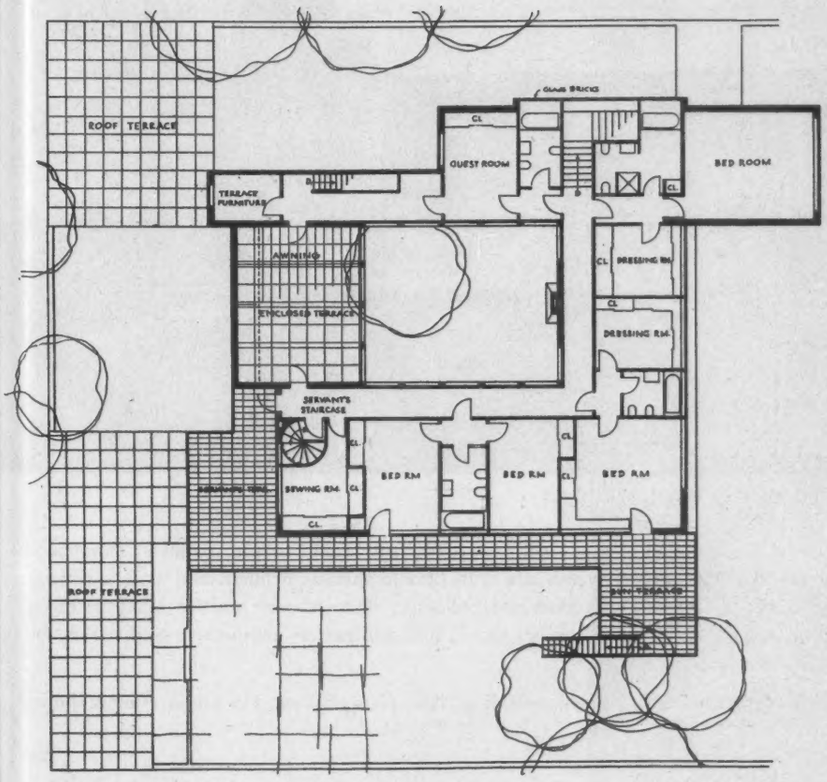
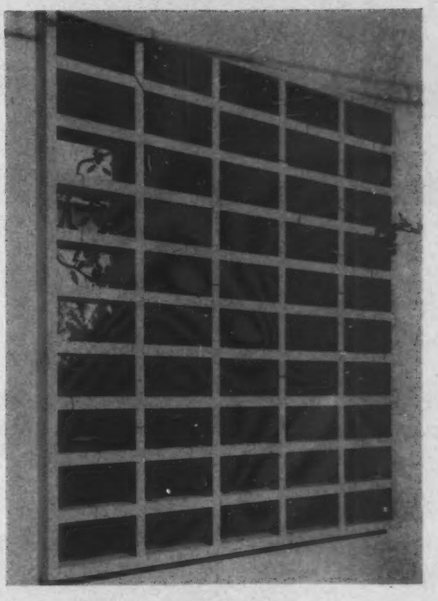


Photo: G. E. Kidder Smith, A.I.A.

Second floor

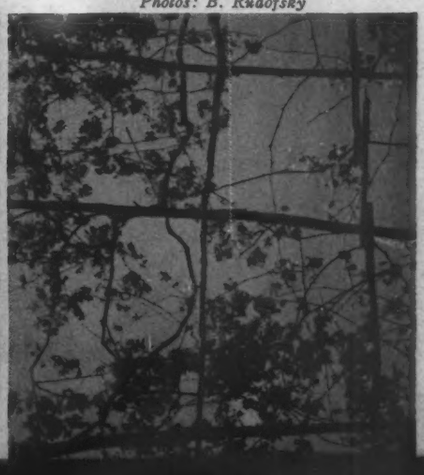




Below, on this page and the preceding one, are a few forms of leaves from characteristic Brazilian trees. One reason for using pure white walls was to catch the intricate play of shadow patterns and multi-colored reflections of the shiny leaves. The leaves are not always green; they run all the gamut from brilliant red to silver.

Wooden grills allow the passer-by an occasional glimpse of the house, which is hidden by the high walls and shrubbery.

Photos: B. Rudofsky



Above is an obstructed view of the northwest front (which in terms of our Northern Hemisphere would be the southwest elevation). The four glass door panels slide into a pocket at the left. The doors are provided with flexible aluminum blinds and a sliding metal grill. At the bottom of the facing page is a detail of the tracks on which doors and grill slide. The elaborate wooden blinds in metal frames at the upper floor (which in South America are as common as in Europe) should induce American architects to meditate on the primitive devices this country is still using to ward off excessive sunlight.

On the opposite page are additional views of the front garden. All windows are sliding. Note plate glass panel of studio window shown at the bottom of page.

Photos: G. E. Kidder Smith, A.I.A., and P. C. Scheier

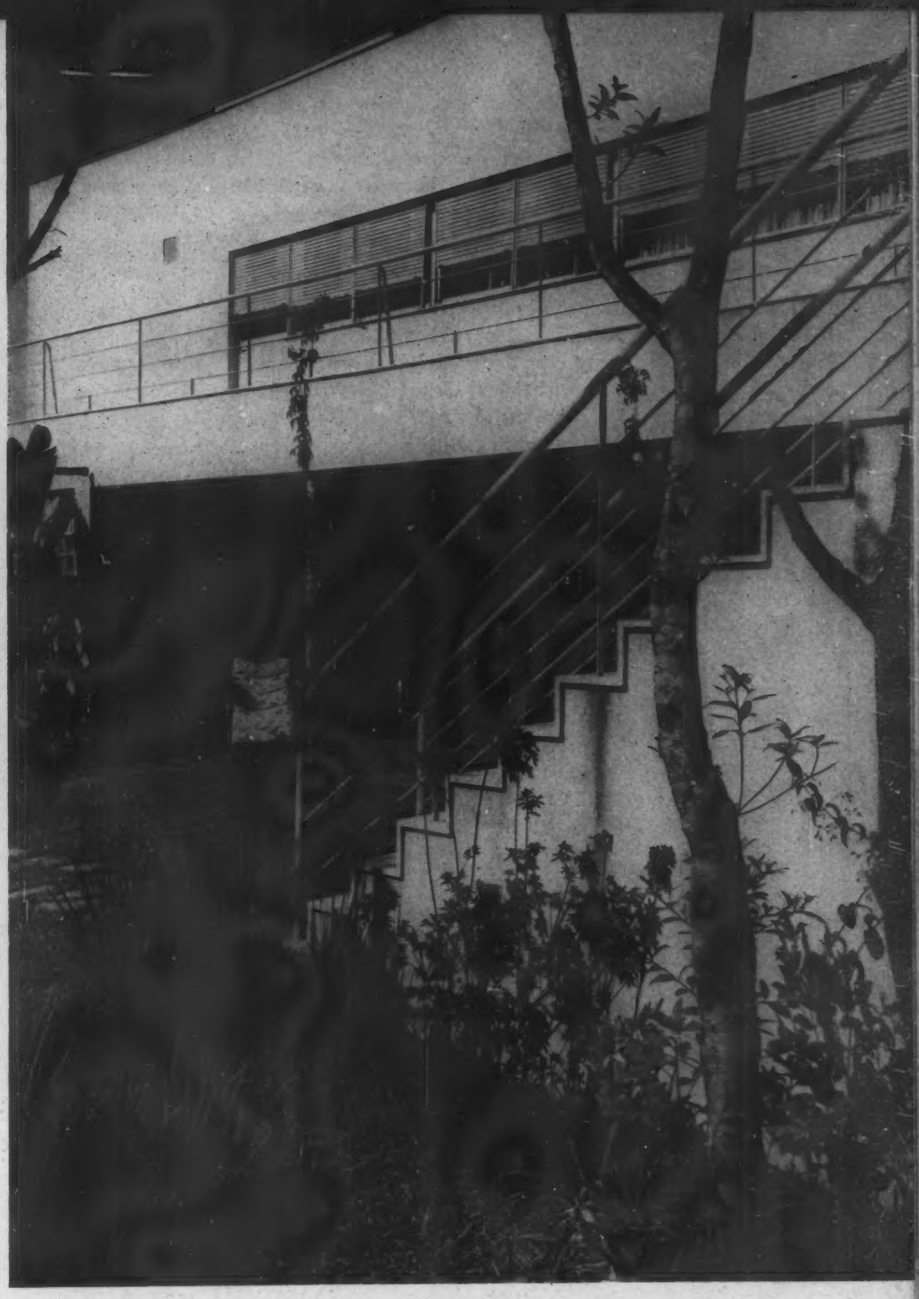
Photo P. C. Scheier

Photo G. E. Kidder Smith, A.I.A.

The children's rooms on the upper floor overlook another outdoor space, of more intimate character, in front of the dining terrace. A small stair leads to a sun terrace above. Behind the glass block walls are the spacious pantry and kitchen. The children's wading pool is planned for future enlargements. Climbing plants and twisted branches of rustic pergolas are used to soften the severe lines of the house.

The city's altitude, being above the ceiling of most mosquitoes, avoids the problem of screened porches.

Photo P. C. Scheier



Rail Detail

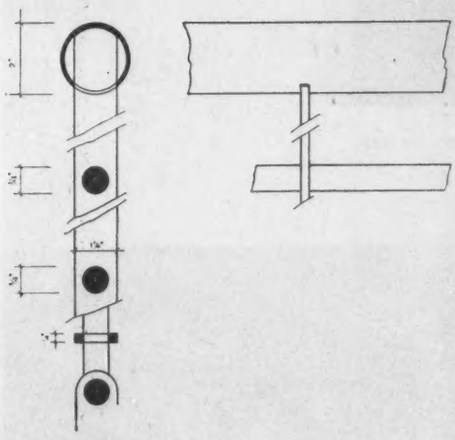
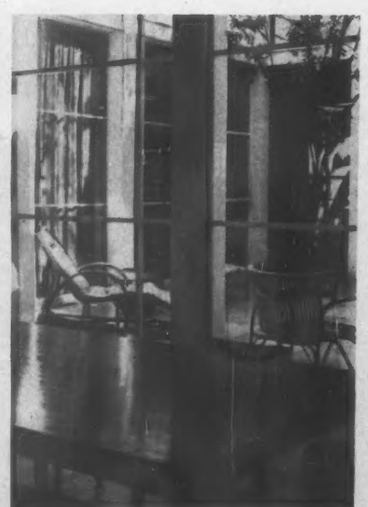


Photo: P. C. Scheier

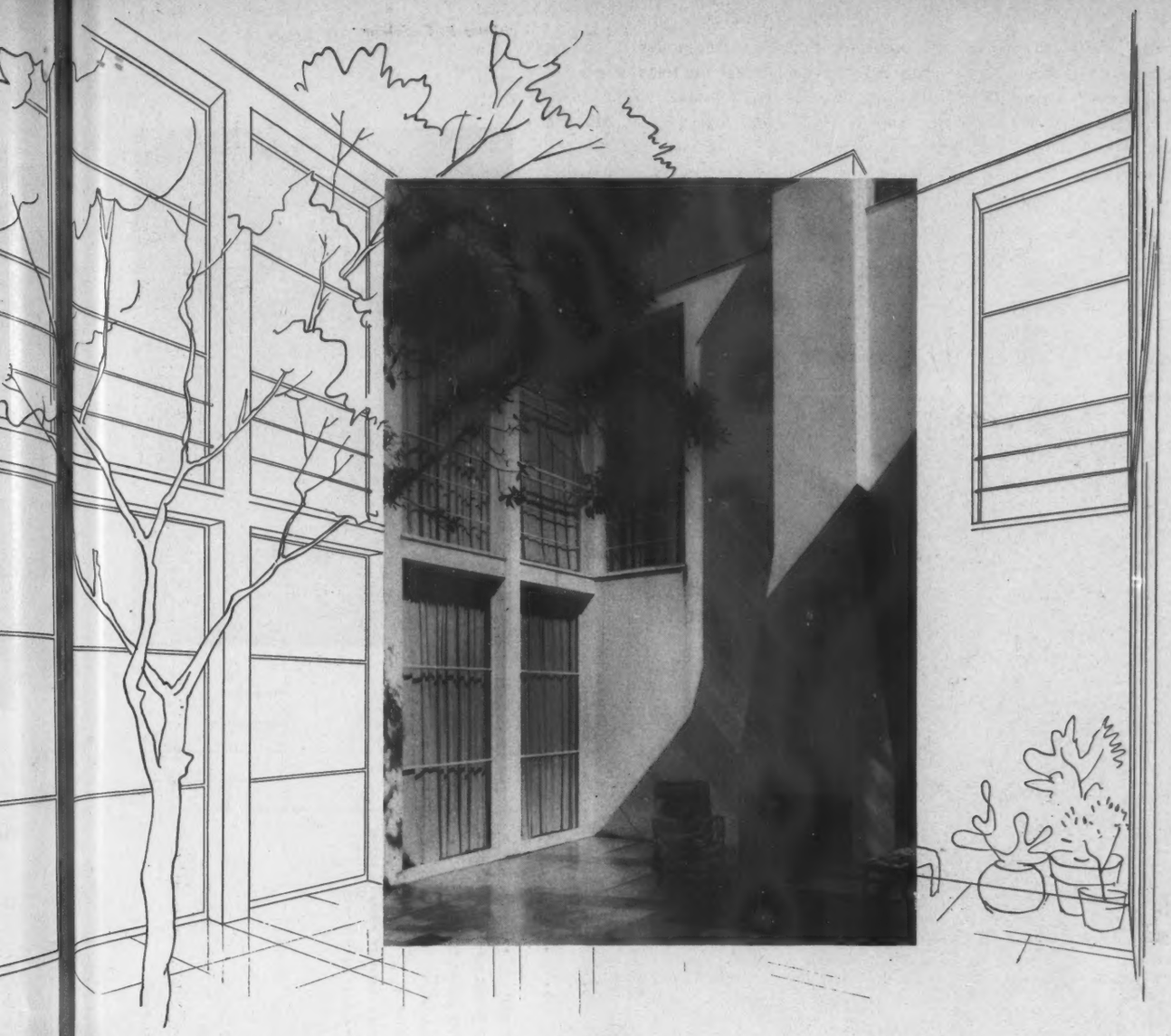
Though Brazil today is without human race problems, Brazilians are pitiless in their discrimination against native plants. Such gardening as is being done inevitably takes the form of gravel paths, cement ornaments, the conventional cemetery flora: wood, cypress, and an occasional anemic rose tree. The excitingly beautiful Brazilian flora is usually dismissed as weeds and jungle growth. The native tree transplanted to this patio is of the most spectacular sort, blossoming at Christmas in three colors at once: white, pink, and violet. It is one of the commonest jungle trees, yet nobody ever thought of it as fit for adorning a man-made garden.

"In Brazil," writes Hugh Gibson in his book on Rio, "a garden is not only a garden—it is a menagerie, an entomological laboratory . . . Gardening here sets all our preconceived ideas and prejudices topsy-turvy. We must begin by scrapping everything we have already learned." The photographs shown here were mostly taken during Brazil's winter and do not convey the splendor of the vegetation. Also not shown here are the most precious ornaments of the houses, the birds and butterflies. To attract them to the Frontini house, flowering plants were chosen which depend on them for fertilization.

Left, corridor with patio window at left, one of the four stairs on other side. Right, view from second-floor terrace into patio.

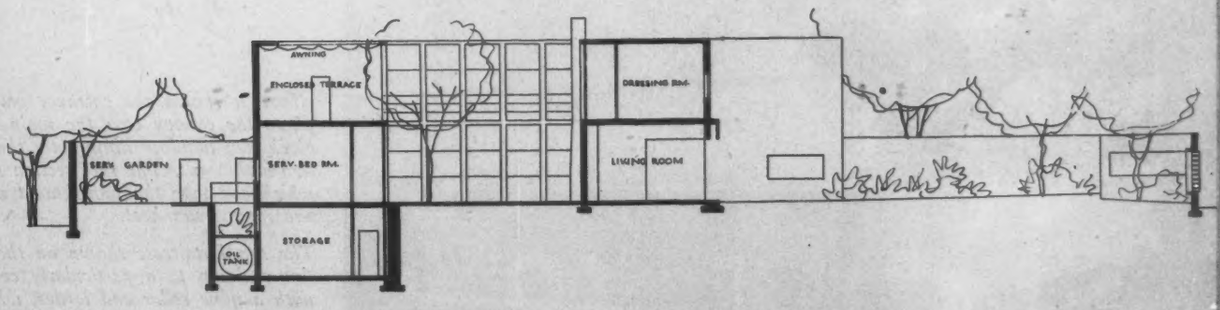


Photos: G. E. Kidder Smith, A. I. A., and P. C. Scheier

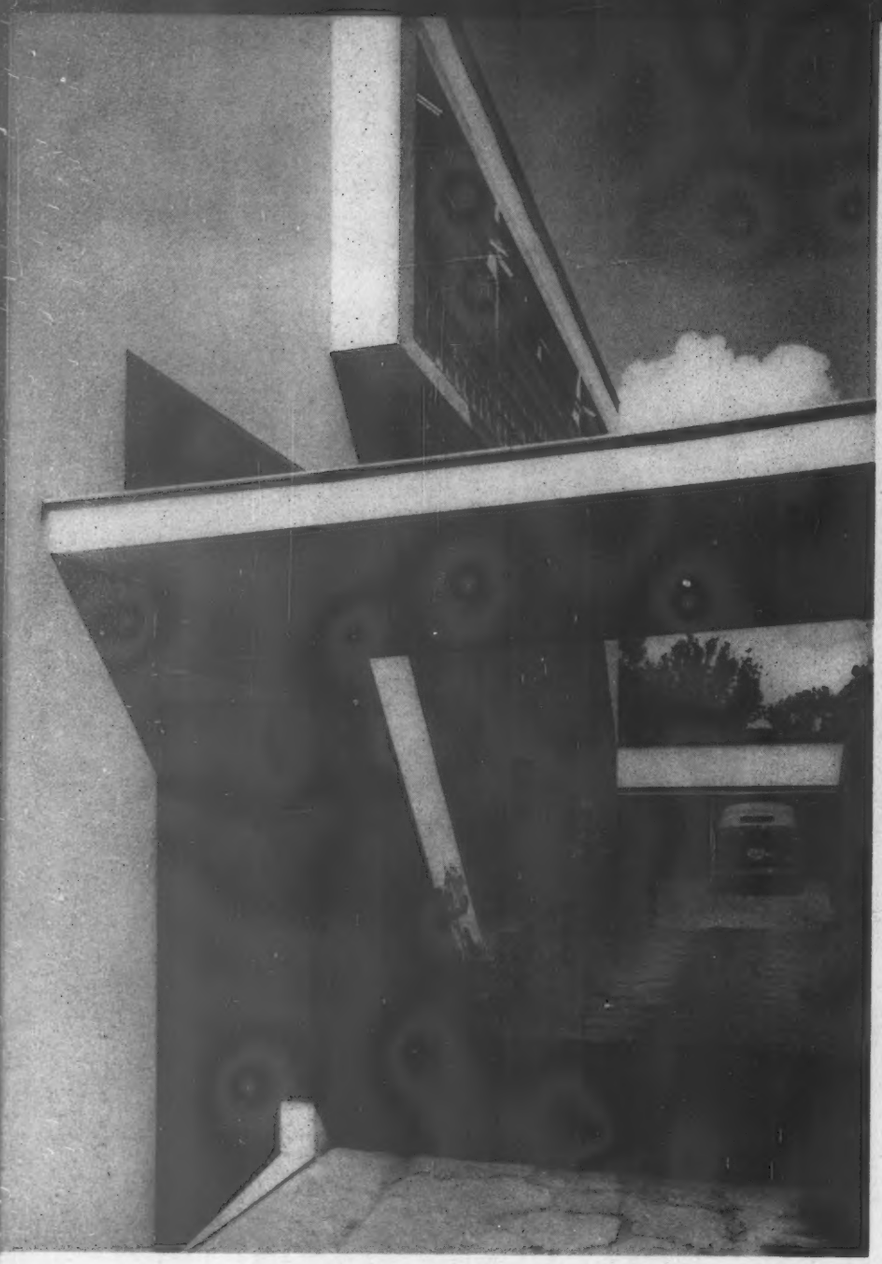


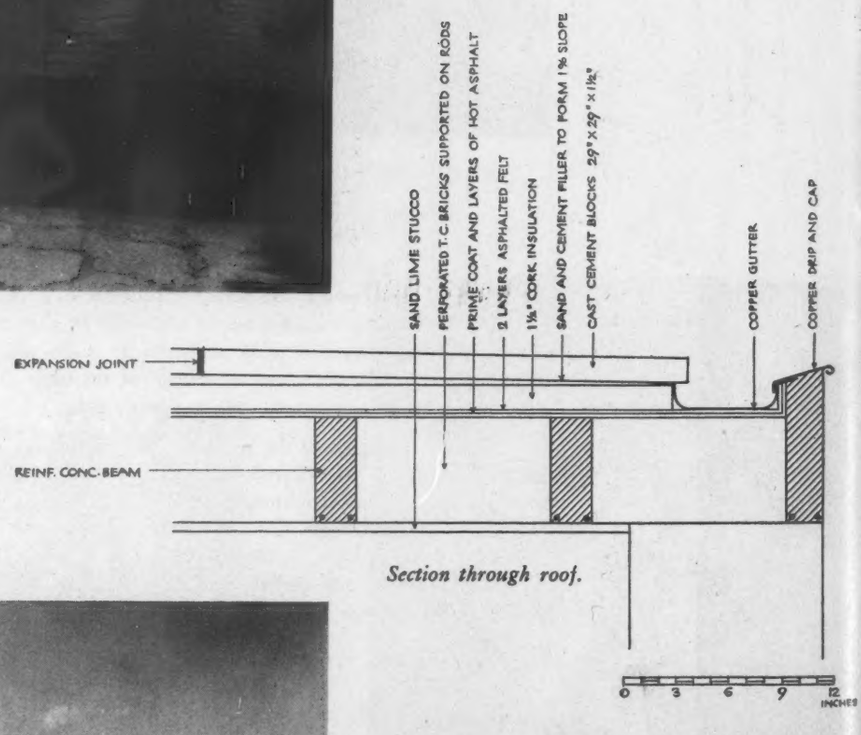
Except in the rainy season, the two-story patio serves as the main living room of the house. It measures 28 ft. by 23 ft., and is enlarged on the south side by a 23 ft. by 19 ft. walled terrace on the upper floor. The fireplace has proved to make chilly August nights enjoyable outdoors. The blazing summer sun is kept out by the high walls and the foliage of the trees. The upper terrace is protected by a sliding awning.

No evidence can be given the reader of the transparency of the house; this can only be appreciated after studying the plan. When curtains are withdrawn, there is a view from the children's playroom out to the sheltered garden, looking through corridor, patio, dining room, and dining terrace. When the sliding doors are opened all these rooms intercommunicate. The floor material of the duplex patio is gray and pale pink terrazzo with aluminum strips; this treatment is temporary until imported marble is again available. Draperies are sailcloth, dyed deep blue. Artificial lighting is provided by movable fixtures and indirectly through the corridors.



Photos P. C. Scheier



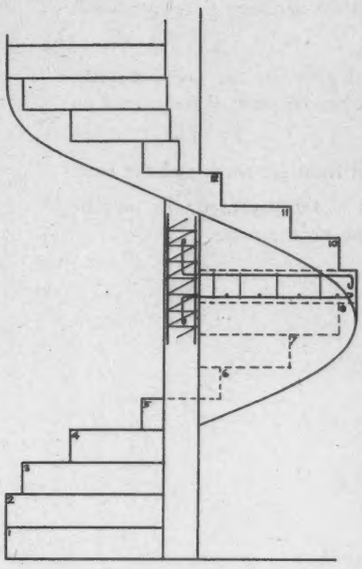

SAND LIME STUCCO
PERFORATED T.C. BRICKS SUPPORTED ON RODS
PRIME COAT AND LAYERS OF HOT ASPHALT
2 LAYERS ASPHALTED FELT
1½" CORK INSULATION
SAND AND CEMENT FILLER TO FORM 1% SLOPE
CAST CEMENT BLOCKS 29"×29"×1½"
COPPER GUTTER
COPPER DRIP AND CAP
EXPANSION JOINT
REINF. CONC. BEAM
0 3 6 9 12 INCHES

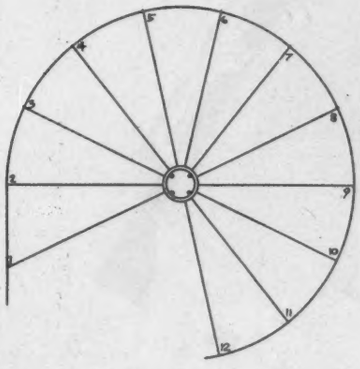
Section through roof.

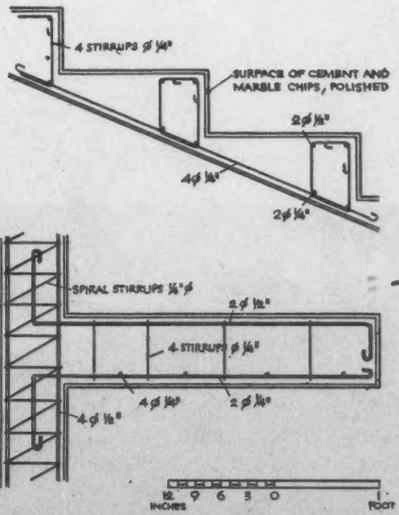
Above is shown the entrance gate, and in the large photo the canopy over the main entrance. The glass block bay window illuminates the main staircase and two bathrooms. The roof section shows a construction which can take the punishment of torrential showers and intense sun heat.

The spiral staircase shown on the opposite page continues down to a particularly cool room connecting with a wine cellar and larder, where one can quietly indulge in wine tasting.

Photo: G. E. Kidder Smith, A.I.A.







In the two residences shown here many American products were used, in some cases in spite of the entirely non-collaborative attitude of the American manufacturer. European merchandise was not available on account of the war, and Brazilian enterprises were not able to meet the enormous demand of building activity. It should be added that American salesmanship and advertising methods in South America do not have the irresistible effect there which they have here at home. Brazilians, also, sometimes prefer their own brand of merchandise, as in the case of the bathroom. The American bathtub is considered miserably small by people used to more generous dimensions. The list of American products is:

Complete air conditioning installation (in the Arnstein house)
Insulating and acoustical materials
Portland cement of various kinds.
Paints
Glass block and ¼", ½" and 1" plate glass
Kitchen equipment
Bathroom fixtures and tile
Shower curtains
I-beam curtain tracks
Lighting fixtures

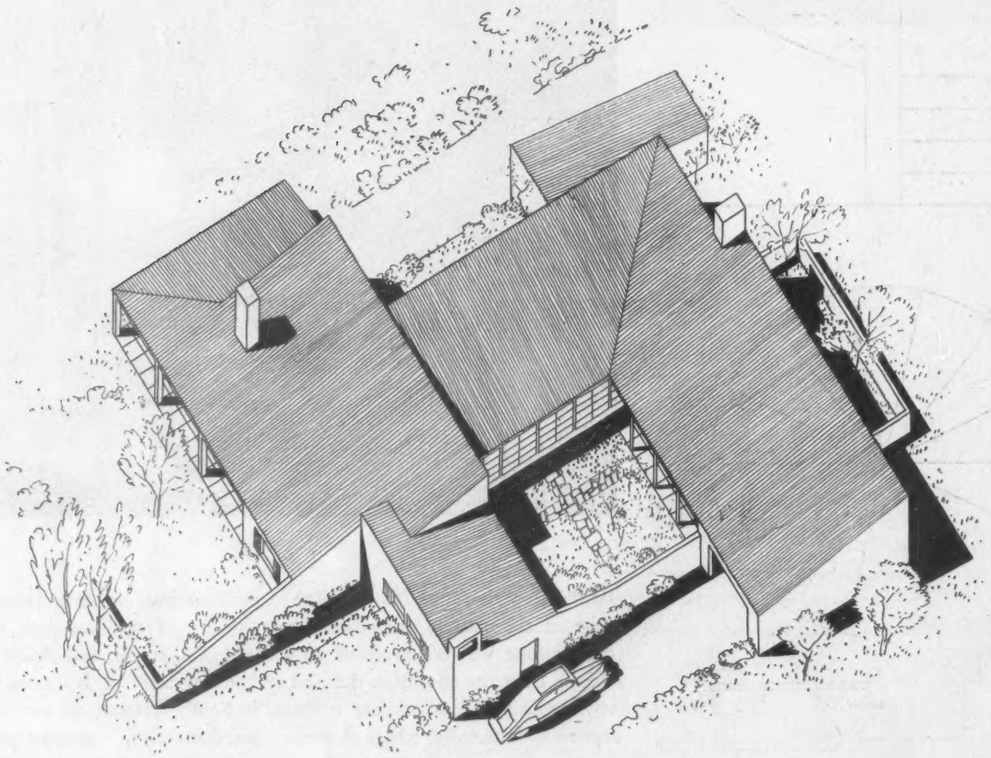
Henrique Hollenstein House, Itapecirica, Brazil

The State of São Paulo is abundant in farmhouses which are highly self-sufficient. Crops and animals are of the most varied kind. Coffee comes, of course, from the estates, the *fazendas*. Light and power are generated by windmills.

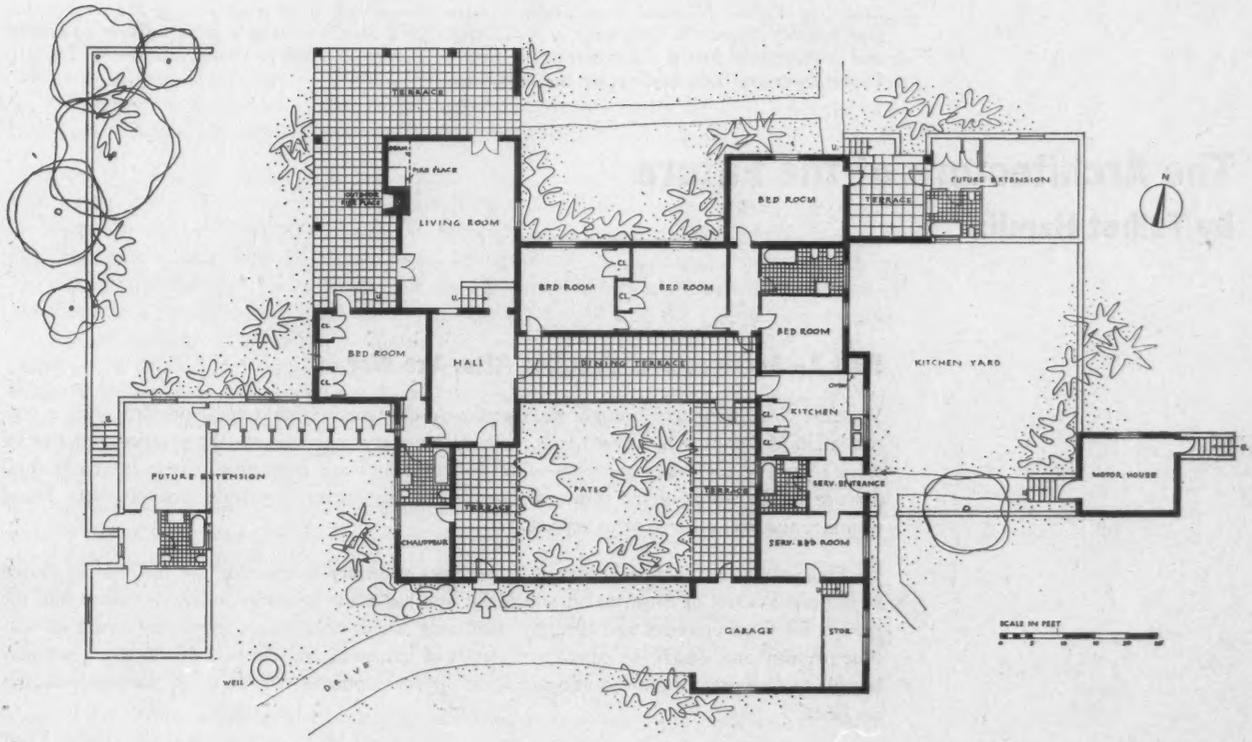
The owner of this house, a Frenchman from Haute Savoie, visited Brazil ten years ago and, enchanted by its climate, remained and started farming. A half hour's drive away from the cities, the price of land is still microscopic. Building there is not subject to codes, and one dollar buys 300 bricks of the first quality. Masons and other specialists are seldom necessary since farmhands are skilled enough in building trades.

The glass-enclosed and open terraces which adjoin the sheltered patio are the favorite rooms of the house, while the sunlit north and west terrace, with its outdoor fireplace, is frequented on cool days.

The photographs on these two pages show the house as it is seen from the north and the west. The house has a mono-pitch roof. In the photo at the bottom of the page, left, the peculiar local construction can be seen—the roof tiles are visible from beneath the roof.



Rudofsky photo



Farkas photo

Gabriel Moulin Studios

Model of Vallejo Hospital, now under construction, which is to serve one of the tremendous war housing projects in California, is architecture for a bureau serving a great number of people; and a project in which the construction firm of Barrett & Hilp is vitally interested. Douglas Dacre Stone and Lou Mulloy are the architects.

The Architecture of the Future

by Talbot Hamlin

Part 3—Architectural Practice After the War

Wartime conditions have brought such profound changes in architectural practice, such a concentration of planning in a few hands, with its necessary concomitant—the practical cessation of private practice for many architects—that two questions are frequently asked: Is architectural practice in the world of the future doomed? Has the system of private architects been found wanting, and will other systems replace it?

To find an answer to these questions, it becomes necessary to examine the methods of design in the vast amount of construction which the war has made necessary today. We must find the reasons for these processes and then, by examining which of these are temporary results of wartime pressure and which the permanent results of industrial and cultural development, we may be able to foresee with some confidence what the developments will be when wartime pressures are lifted.

The first great fact is a tremendous increase in bureau architecture, characterized by the building up of vast architectural offices in the governmental departments which have jurisdiction over the buildings designed. It represents a merging of client and architect in one body under one controlling head. The design division of the Navy Department is characteristic of the war development of this system, just as the work of the TVA designers typifies the more permanent, peacetime growth. The second great development is the awarding of large construction jobs to engineering and contracting firms which do their own designing. This is represented by many types of present-day construction for the Army, as well as by the building of large numbers of industrial plants. The third great change is the increase in design by manufacturers, represented especially in the field of prefabricated dwellings which are common today in many war housing projects.

Taken together, these three sources of building activity represent billions of dollars of construction work in which the private architect, working through his own office, has no part; it is not strange, therefore, that the question of the part of the private office in the postwar world should have arisen both inside and outside the profession. Here these buildings stand—some excellent, some architecturally undistinguished, some (like the Pentagon Building in Washington) obviously out of date and fantastically bad. Their rank, architecturally speaking, is as varied as the rank

of buildings produced in the ordinary course of private practice, which also include the good, the mediocre, and the bad. It is therefore, I believe, impossible to make an adverse criticism of the present system on the basis of the architectural quality of results. Many of the TVA structures are among the most successful architectural projects in the country; many factories built by so-called engineering companies are more forward-looking and more architecturally effective than many designed by private architectural firms. Standardization and crystallization of ideas, unfortunately, are apparently as common in the large offices of privately practicing architects as in bureaus or contracting firms.

The answer as between these new methods of design and the older systems of private practice must therefore be sought on other grounds. We must, then, analyze the factors which brought about the present condition, to see which are permanent.

Behind the development of bureau architecture is a long history. The trend seems to have set in at least twenty years ago; more and more, ever since, the scope of work performed by municipal designing bodies, boards of education architectural offices, as well as large federal organizations, has consistently increased. This is a simple matter of fact. The war has served only to emphasize and develop a trend already strong. The economy, if not in money, at least in time and in direct contact between responsible officials and the designers of projects for which they are responsible, is too great to be neglected. And, too, the continuity of service and the economic security established in a bureau office should allow a greater opportunity for study of standards, the interpretation of legal requirements into building form, than is usually possible in private architectural practice.

In Britain, this development toward the use of employed architectural service has been accepted as a permanent trend, and the R.I.B.A. has been working in the closest cooperation with the A.S.T.A., which is the labor organization representing employed architects and technicians. Employment with certain forward-looking bureaus is sought with just as much eagerness as with certain famous architectural firms, and the quality of the designing heads of these organizations has risen increasingly. They have exactly the same prestige in architectural circles as designers of their quality in private practice. Our own development has been similar, and I feel that this trend is one which we may consider with some confidence to be permanent.

If this is so, it behooves architects to find out how their planning skill, their creative genius, can best express itself within this system, and how the manifest dangers of the system—the dangers of crystallization, over-rapid standardization, hostility to new ideas, hostility to esthetic experimentalism and advance, and plain inertia—can be prevented. Our own experience is a help. In the old office of the Supervising Architect of the Treasury, for instance, it was discovered many years ago that the system of salting standardized post offices around the country was arousing tremendous hostility, both among architects and among the populace at large. Local pride could not be satisfied with stupid repetitions of basically stupid edifices. This situation was largely remedied by a system of bringing in from private practice a changing body of consulting architects, who were well paid to design new and fresh types and new individual buildings, and by a series of competitions for ideas which, successful or not in individual cases, at least brought into the picture a flood of fresh light. By keeping the system of consulting architects on a changing and rotating basis, a liaison could be established between the bureau office and the outside architectural world, unfortunate standardization prevented, and progress assured. The architect would benefit by his close contact with the bureau and its accumulated knowledge and system, the bureau would benefit by the continuous introduction of new blood and new ideas, and the public would benefit in better buildings. Perhaps this indicates a fruitful line for future development, which could be well imitated by board of education architects, municipal and state departments of architecture and engineering, the Department of Agriculture, and so on.

Another experience indicating the limitations of bureau architecture is the experience of the old PBA in war housing. Here was a field in which PBA, strangely enough, was an almost complete flop as architect. It was found that not only was the quality of the housing it produced mediocre or worse, but its design costs were high, its boasted economies pure illusion. This, I believe, was a more than accidental result, which arose from the fact that housing is by nature so closely predicated on local conditions, site peculiarities, on a deep and sympathetic knowledge of how people live, that only a local designer with a deep understanding of the community could be successful from either the human or the economic point of view. As a result of this discovery, the housing field was opened to groups of private architects, with an enormous increase in vitality and effectiveness.

One might almost say that the question of whether or not a given type of structure should be bureau-designed or designed by private architects could be decided on the basis of the amount of local knowledge and human sympathy and imagination required. I believe this differentiation is so socially sound that housing will form one of the great fields of postwar private architectural practice. Whether or not local bureaus, such as architectural offices set up by local housing authorities, working on a basis, perhaps, of such changing consulting-architect service as that suggested above, will be able to produce more successful housing, will depend a great deal on the flexibility of the bureau and on the success or failure of individual architects with the projects assigned to them.

(Turn to next page)

Design by engineering and contracting firms, which is a marked feature of much large-scale construction today, is more a matter of accidental organization than of real economy. Experience has proved again and again that construction costs often bury planning errors occurring in this type of work, so that the public or the government never becomes aware of them. Economically, the system is often extremely wasteful; many of the largest of these companies frequently work on the job with a kind of rule-of-thumb lack of planning which is anything but efficient.

I have heard, for example, of a factory which was to be built with a new form of thin-shell, vaulted, reinforced concrete roof. On the job the company, despite the protests of the designer, made all sorts of "economies" in reinforcing steel and other refinements on which the system depended—on the general basis of "it will do, and we'll make more money." As a result, when the forms were removed, there was a deflection of some six inches, and the company was forced to insert trusses. Thus not only was enormous waste the result but, in addition, a promising, carefully-designed new construction system was given a black eye. And I know that that kind of thing in various forms goes on over and over again. We accept this waste today, under wartime conditions, as a result of necessary speed, but when wartime pressure is lifted much of this kind of design will be seen as the extravagant extemporization which it really is; the planner, the designer, the architect, working independently of the contractor and in a position to hold him to design standards, will reassume his necessary importance.

Yet it is obvious that modern design is going to make more demands on the architect or the architectural organization for responsible engineering skill. I look forward, therefore, to an increased development of architect-engineer combinations. We have seen how in the TVA work it was only the most understanding and complete cooperation between architect and engineer which produced its beauty and effectiveness. I think the same can be true of any amount of the large buildings of the future, and even in small buildings the resultant economy in construction and perfection in detail possible under such a system could be of vast importance.

This will force, I think, many free types of architectural association, or design association, in which the architect and engineer will play cooperative roles. Perhaps a number of architects will share an office with one or more engineers, and perform their services either together as a group or individually, with other members of the group working on a salary. In any case, under some such system, the client could be guaranteed the most expert engineering and design service even in small work, and even from a small group.

The third type of design which has largely escaped the architect in private practice is that for manufacturers, and especially the design of the prefabricated house. This field has long been looked upon as a growing menace to the independent practice of architecture—quite wrongly, I believe. It is, of course, almost certain that prefabricated houses are going to play an enormous part in the low-cost housing field after the war. It is probable also that many of them will be of the most routine and unimaginative design. If we can judge by the great number of prefabricated and demountable houses that have been thus far used in war housing projects, most work of this class in the future will be backward in design, sentimental, pretty-pretty, and dolled up with all kinds of period frills. The architectural picture they present is not encouraging. Yet, in this, wherein are they different from the vast majority of small speculative houses built before the era of prefabrication? Here also the creative, independent architect drastically failed to make any appreciable impression. Even if the private architect loses control of this field completely in the future, he will be little if any worse off than he was before the war, for only in the most exceptional cases did the true architect enter this vast field of speculative, low-cost housing. If he had been able to do so, the problem today would be different.

Certainly the prefabrication field is one that obviously demands the most acute creative thought if it is to realize its great potentialities. Undoubtedly, if an alive, competitive market in low-cost prefabricated houses arises after the war, the question of design is going to be a major element, and it may be that economic forces themselves will force manufacturers to a greater and greater dependence upon architectural designers. The challenge of the problem will be there and, as competition increases, the prestige of the designer and his monetary returns will be bound to rise.

Even if the scope of private architectural practice is limited by tremendous developments in all three fields—bureau architecture, engineering and construction firm architecture, and prefabricated housing—there nevertheless will remain a vast field in which the private architect will be necessary. It is complete forgetfulness of this field which has led to most of the pessimistic utterances about the disappearance of the architect. This field will include many medium- and higher-cost houses, many summer residences, and similar special types of human shelter.

The vast investments in war bonds which the American people will have made will furnish an enormous nest egg of capital. Much of it, I feel sure, will go into home construction, when conditions after the war allow construction again, and if architects are on their toes they will have control of the design of the many houses of middle and larger sizes. In addition, there is a field of the private school, the summer camp, the recreation club. There is the field of shops and stores, many of which will demand individuality in design and get it through the employment of private architects. There is the field of churches and many other similar buildings for religious, social, and charitable purposes, which fall outside of the scope of the municipal bureau and certainly completely beyond that of the average construction company or manufacturer. In all of

these, close study of particular wants, needs, and local conditions is a first necessity in design, and it would seem that the only method so far developed of guaranteeing this kind of service is through the individual architect in private practice.

Any prophecy of postwar architectural developments today can be tentative only. The actual position of architects in the postwar world will be dependent on many political decisions made by the American people between now and then. For it is impossible to separate the practice of architecture from the entire political, social, and economic national attitude. Thus the whole future of the aims of housing, of the ideals of urban redevelopment, and of rural planning are essentially political in their nature. We know that America has the material and will have the manpower to produce myriads of buildings when the war is over. It will be our political judgments that will largely determine what form these buildings take. Many recent studies have attempted to relate the future of housing, for instance, to the problem of the market in terms of incomes. Seen in this light, notwithstanding revolutionary changes in building techniques and building costs, the lowest income group—and a very large group it is—can expect no large-scale construction to alleviate its housing difficulties. On the other hand, we know that there exists the material and human wealth to give shelter and pleasant communities to every inhabitant of the United States, in time. But this will involve revolutionary changes in our economic thinking.

The question of whether architects will do housing, and what kind of housing they will do; the question of whether industrial and business development will tend toward decentralization, with the consequence of more and smaller jobs for private architects, or toward greater and greater centralization, with fewer and larger jobs for construction companies; the question of whether governmental bureaus will increase or lessen in power—these are all questions the solution of which will lie in political action and political decision. We can build an America for profit, in the hope that the profit will eventually percolate down and out to everyone; we can build an America for speculation, with the hope that speculative values will eventually actualize themselves; we can build an America for the richer life of Americans, with profits and speculation subsidiary. Which of these we do will affect the architect profoundly. It is up to him to see that as far as possible his political decisions are made consciously to produce the aims he desires, and in his position as a leader in matters of planning and design it is definitely up to him to see that others, too, understand how their decision will affect the communities in which they are going to live.

Photo of a typical parkway intersection, Department of Parks, New York City; typical of better-than-average bureau work. The desire to get things done has had an apparent influence in that such solutions are not always as great improvements upon the forthright intersections they replace. True, traffic accidents may be reduced, but the motorist is let into a veritable Coney Island maze. A different type of solution (called the Maltese Crossing) has been evolved by English designers; though it has not been thoroughly explored as yet, it looks simpler. And the use of nice, expensive stonework to cover up straightforward concrete, the introducction of rustic fences out of character with the monumental whole, seems to stem from pre-occupation with superhuman logic which someone thought needed prettifying.

Rodney McCay Morgan photo

Public Housing in North Eastern States, by Michael Rosenauer, F. R. I. B. A., A. I. A.

New needs create new forms. After the emergency we can expect that public housing will, by incorporating these new needs, present solutions cardinally different from the achievements of today. The time seems therefore appropriate to analyze the achievements housing has attained during its first period of development in the United States. An examination of merits as well as of shortcomings appears essential.

Public Housing, as controlled by the United States Housing Authority, enjoyed, before Pearl Harbor, several years of uninterrupted development. The present emergency has intensified the problem of low-rent housing but, by changing conditions, it has drastically interfered with the continuity of the development. The demands to be satisfied at present are similar to those before but time schedules and considerations for site and materials selection have altered. Needs carefully established by housing authorities have so far been of a stationary character—now temporary needs not only disharmonize with the future prospects; they overrule them. This lack in identity of present and future demands introduces new elements into housing. Emphasis is laid on flexibility of the project, and independence of locality has to be secured by utilizing demountable units.

From public housing projects I have visited in Pennsylvania, Ohio, Michigan, Illinois, and Kentucky, I have selected eight projects. Each of these has specific interest.

It seems that the designer often loses his esthetic balance when he endeavors to mold certain details into decorative features. The architecture of many houses appears ridiculously enhanced by baroque extravagances allowed to invade such necessities as canopies and porticoes. It seemed to me of interest to collect a number of such examples in order to show the importance of discipline in architectural design.

Very little attention has so far been paid to the correlation which should exist between site planning for housing projects and town planning. It is evident that rectangular block plans are obsolete, and that city planning will follow up with the new patterns community planning is establishing. This, one of the most joyful prospects, is bound to develop. Just as the rectangular pattern reflects the individualistic trend of a bygone period, future city plans will express the present social evolution manifest in our housing projects. No time should be lost by city authorities in revising existing plans, halting haphazard suburban plot planning, and correlating future developments with new principles of site planning.

Terrace Village, Pittsburgh, Pennsylvania

Site Plan

This project will some day be classified as a landmark in the architectural evolution inaugurated by low-rent housing in the United States. It truly exemplifies boldness in attacking an engineering problem. Instead of muddling with complications imposed by the original condition of the site—which was intersected by small hills and undermined by old coal shafts—machines were used to create building sites.

Extensive building sites have thus been reclaimed. Miserable slum quarters have been turned into healthy areas offering ideal building conditions in the center of one of the most important industrial cities of the world. The beautiful terraces so created tower majestically over the surrounding city slums. It will require only a few years for the newly-planted vegetation to be full grown, and then the value and beauty of this creation will become apparent even to the romantic.

The esthetic enjoyment of this project grows out of the convincingly-established relationship of its building masses. The comprehensive rhythm and the ever-changing contrasts of perspective, due to the different levels of the terraces, disclose themselves along the roads and courts of the project. Similar building masses at varying distances, in varying directions, and on different levels, provide unlimited variation of

Terrace Village, Pittsburgh. R. M. Marlier, Edw. B. Lee, Wm. H. Boyd, B. H. Prack, Architects

light and shade. This variety is produced in clear geometrical orderliness.

Terrace Village is laid out in two principal sections. The smaller one, comprising 802 units, is older; the larger one, comprising 1851 units, has just been completed. The new section is formed by three terraces—the two higher plateaus rise dramatically from the surrounding lower main terrace. This lower terrace is again divided into two parts, linked up by the community grounds excellently situated in the center of the project.

The apartment blocks of the upper terraces are arranged in parallel and square blocks with simple grass plots between their garden fronts, and leveled courts at their entrance fronts. The apartment blocks on the lower terraces follow radial lines towards the intersecting slopes of the upper terraces. They keep on a right angle to one circumscribing road which gives access to the blocks arranged on both sides. The architectural orderliness, particularly of this part of the project, is strikingly clear and beautiful—best seen from the upper terraces or from viewpoints on the opposite hills. The relationship between spacing and height of building is satisfactory in all parts of the project and contributes greatly to its harmonious effect. Perfect air circulation is secured throughout the project.

Site Plan

The most interesting portion of the site plan, which provides altogether 1,662 dwelling units, is the section with the 4-story apartment blocks. Ten are laid out diagonally across the shorter dimension of an oblong rectangular area. Each is divided into three building masses, one long and two short. Projections and recesses in pairs of adjacent buildings are at diagonally opposite ends of the court between them. The whole arrangement achieves variety through repetition in a most satisfactory manner.

Next to the 4-story apartments is an oblong rectanguar section which contains the large Community Center building, and play areas with swimming pool and athletic fields. These form a recreation center excellently situated for tenants. A third section has, at its center, 3-story apartment blocks, and, toward the streets, combinations of garden apartments with row houses, and 2-story row houses. Their layout is less original than the site plan of the first apartment section. The fourth section has garden apartments and two-story row houses, of which the greatest number is in this section. The chief merit of the site plan in these two sections is the arrangement of two wide and slightly curved private avenues, one of which has groups of beautiful old trees.

Design

The architecture of the second section is of impressive simplicity and in conformity with the scale of the site plan. All buildings are three-story walk-up apartments, built in light pink multi-colored bricks. All roofs are of flat asphalt, with just a sufficiently large projection. Their cornices are partly faced with bronze resting on yellow painted wood members which are not sufficiently distinct in design. The entrance door architraves show variations of simple and effective brick arrangement. The well designed garbage and dustbin shelters, with their simple brick walls and stone copings, present a feature deserving attention.

The architectural treatment of the earlier section is less successful. The three-story apartment blocks there are built in darker bricks with smooth surfaces. When comparing the two sections one can observe how color and texture of bricks influence the architectural effect of a project. The light bricks of the second section achieve an effect of brightness whereas the dark bricks of the first section convey a sombre effect.

Ida B. Wells Homes, Chicago, Illinois

Wells *(Continued)*

Design

The houses are built in bricks of pleasant color. Various attempts are made to bring unnecessary variations into the texture of the brick surfaces by means of projecting bands and other ideas of enrichment which fail to give the desired effect. Otherwise great care has been given to simple and practical architectural details.

Into the 4-story apartment blocks are introduced sporadic balconies for merely decorative effects. Their balustrades display large leaves, pierced in sheet metal, painted white on some, painted black on others. If balconies were appropriate, there was no reason for not installing them on all upper floors instead of restricting them to the top floor only. Again here is an attempt at variety which did not originate in planning needs, and consequently destroys the harmony which otherwise would have been fully achieved.

The canopies and projecting entrance porches have copper roofs in a curved baroque shape, also hardly in conformity with the straightforward design of the houses.

Westlake Terrace Homes, Youngstown, Ohio

Site Plan

The site plan of this project provides 618 dwelling units; it is of irregular shape, intersected by a public thoroughfare. The triangular lower part, reserved for Negro families, includes an old factory and a Y.M.C.A. building. The houses are laid out in two rows parallel to the surrounding streets, leaving a triangular playground in the center.

The larger section of the project stretches in an oblong, almost rectangular, shape from the intersecting road up to the hill top and to the extensive public playgrounds there.

The site plan of this section, housing white families, is of interest. Proper orientation of the houses, laid out in parallel rows and not rectangular to the surrounding streets, allows for sufficient parking areas and pleasant recesses from the street. The U-shaped grouping of the houses secures privacy for the interior courts which face a wide, open garden lawn. This lawn leads up to the Community Center and is bounded by two parallel footpaths. A bend in its lower part produces pleasant perspective views up and down the hill and vistas of the open courts. No road intersects this part of the project. Front gardens as well as back yards are kept free from any vehicular traffic; yet they are easily accessible.

The position of the Community Center on the top end of the project appears justified because of the large public playgrounds on the opposite side of the street. The building itself is opulent and contains a large gymnasium equipped with a movie projector room, various club rooms, library, classrooms, and some living quarters. Interesting features are a special nutrition kitchen for children, a complete nursery, and doctors' consulting rooms. Neither planning nor architectural treatment of this building show an inspired solution of the interesting program; in quality of design it lags considerably behind the other parts of the project.

The houses are built of dark red brick toning in harmoniously with the gray slate roof. Distances between row houses are well in proportion to the building masses.

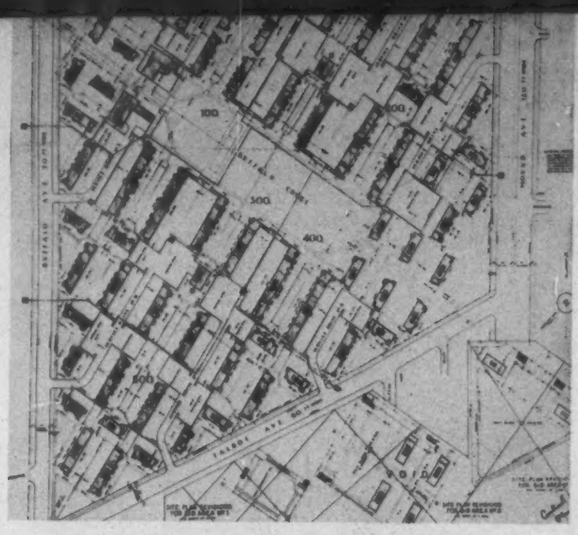
The Charles Project, Detroit, Michigan

Site Plan

This project, of 440 dwelling units, has an interesting site plan which shows regimented discipline. The general layout, as well as the architectural appearance of the various uniform groups, is an example of the fact that intelligent use of repetition in site design can produce beauty.

A large rectangular open square forms the center of the project. Parallel rows of houses are arranged perpendicularly to the longitudinal axis of this square. Service yards include parking areas directly accessible by service drives from the surrounding streets. The view from the central square into these service yards is blocked by walls and long loggias, which form an architectural feature of the central square, each flanked by three-story blocks arranged at the ends of the rows. A similar arrangement at Parkside Homes Exten-

sion appears to have more justification as there it closes courts towards a public thoroughfare which carries heavy traffic. Here, in the Charles Project, it is questionable whether the unfriendly appearance of these long walls, when seen from back yards, can be considered compensated by the unconvincing necessity for seclusion of the central recreational area.



Design

The houses are built of light red brick and whitewashed concrete block. The arrangement of these two different types emphasizes symmetry and axial composition. All details are well conceived with regard to their practical purpose. The flat roofs of the houses project and have a well proportioned concrete cornice.

DeSoto Bass Courts, Dayton, Ohio

Site Plan

This project for 200 Negro families, is built on level land which has no unusual characteristics. The project, however, has excellently spaced buildings, open grounds, and well balanced landscaping. The row houses form four large interior courts, through which service entrances are approached. The courts also serve as parking spaces. House fronts face either streets or lawns arranged perpendicularly to the streets.

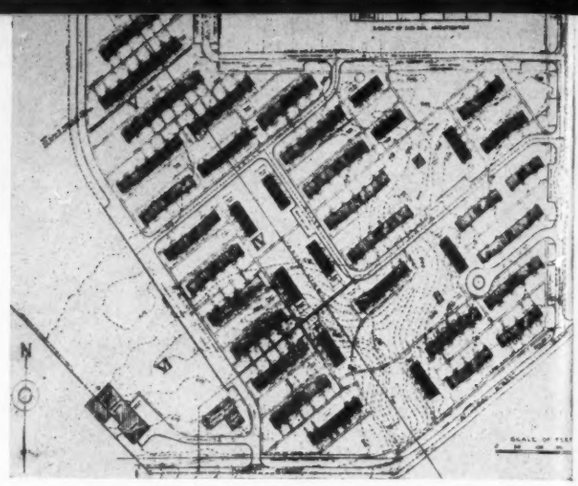
In many projects, the balance between grass plots in front of houses and open central lawns is ignored. Here, there has been careful study of this point, and the results are highly is determined by building height and the amount of open successful. The setback of the row houses is not arbitrary, but space confined between buildings. The same type of criticism applies to plantings, as regards size and number of trees and shrubs; their masses should relate to the masses of the buildings.

Design

Architecturally, the houses are pleasant. Windows are of wood, painted white, as are the doors and panels. There is a certain opulence in these wood details which adds to the specifically "friendly" character of this project.

Architects: Westlake Terrace, Schiebel and Shaffer; Charles Project, Michigan Housing Associates; De Soto Bass Courts, Dayton Housing Architects

Charles F. Weiler Homes, Toledo, Ohio



Site Plan

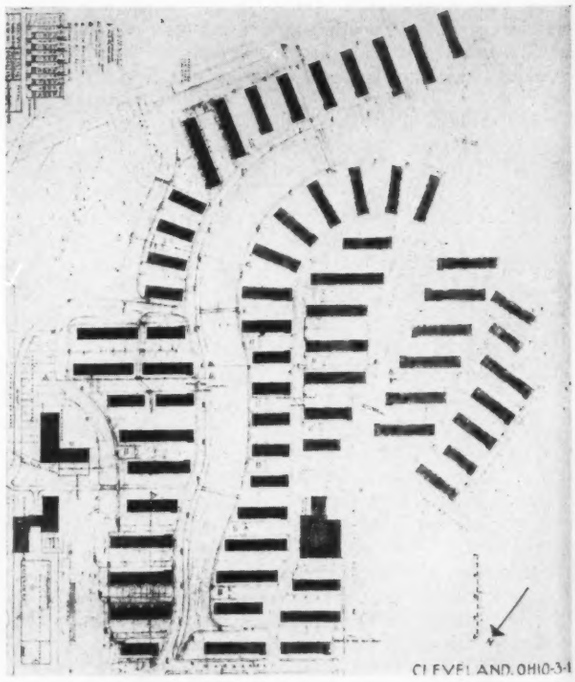
Weiler Homes provides 384 dwelling units in row houses, on an irregular site, which is nearly level, except for an undulation on the open lawn near Stillman Street. Some old trees, and landscaping of a most distinguished quality, contribute to the beauty of this garden village. Two open lawns give fine vistas through the project. Private gardens are maintained by the tenants.

The houses are laid out in parallel rows, and individual courts are formed by casually arranged transverse blocks. The distances between the rows, in relation to the height of the buildings, is esthetically satisfying.

Design

The architecture of the houses, built in yellow-pink bricks, is pleasant in general appearance and detail. A stone coping is provided on all houses with flat roofs. The door canopies are well proportioned; the lattice work flanking the doors is equally well designed and is grown over with creepers. The simple logical treatment of architectural details gives this project distinction.

Valleyview Homes, Cleveland, Ohio



Site Plan

Seventy 2-story row houses, providing 580 homes, are skillfully laid out on two terraces of a narrow hillside which slopes down steeply to the industrial valley below. Intelligent use is made of topographical limitations. The houses are grouped along, as well as around, garden plots and play areas.

The Community Center on the upper terrace forms an attractive entrance. A central portico opens to a garden space which conforms with the pleasant landscaping and the beautiful display of flowers in the individual garden plots. The community grounds form the center of the site plan, linking the two main terraces in one harmonious unit.

Architects: Charles F. Weiler Homes, Britsch and Munger; Valleyview Homes, Hays, Simpson and Hunsicker; Columbia Center, R. S. Kastendieck and Co., Bachman and Burton, Kenneth R. Vaughn and Co.

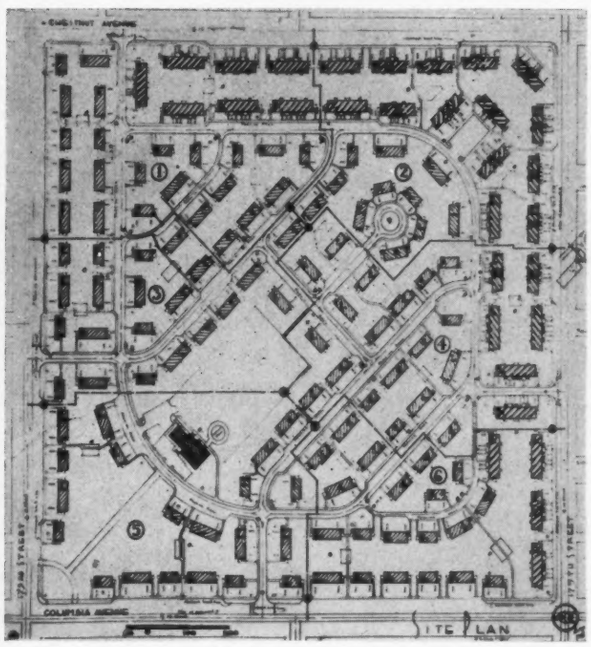
Design

The architectural treatment of the houses does not come up to the quality of the site plan. The use of two different brick colors—pink and yellow—is not justified and detracts from the effect of the well spaced courts. The roof projection appears exaggerated, and the height of the second floor windows is out of proportion.

The tendency to draw the window head too high is typical of many projects. The top panels of these windows are not arranged for opening, a fact which eliminates their use for

ventilation and thus their only possible justification. The high position of these top panels makes them a nuisance for cleaning and also for the arrangement of curtains. The lack of proportion caused by such high windows is, in this project, emphasized by the architectural treatment applied to the window heads. They consist of recessed metal panels leading into the roof cornices and painted the same color as the windows.

Columbia Center, Hammond, Indiana



Site Plan

An interesting project, housing 400 families in one-story twin houses and two-story row houses, Columbia Center comprises 146 buildings on a square tract of land. A private interior road system divides the site in an outer and an inner circle, providing for easy internal communication and for pleasant perspective.

The one-story houses are inside the inner circle; the two-story row houses are in the outer circle. Many fine old trees have been incorporated into the scheme without evident effort—all look as if they have been casually placed on the right spot.

Design

The houses are built of multi-colored brick. Distinct concrete base courses add to their tidy appearance. The window sills are in natural stone, tooled to a rough surface—a rather superficial attempt. All roofs are flat and project about 9 inches—an appropriate dimension; their bronze facing is, however, heavy (5 inches) for the proportion of the houses. The two-story houses have no entrance canopies—a fact which induces marked relief in one who has seen the whole range of decorative canopies displayed. One-story houses have simple, elegant canopies, sufficiently large for use as small porches.

All houses have a well designed coal bunker which, in contrast to many other attempts at solving this important storage problem, contributes pleasantly to the architectural appearance of the houses. No attempt has been made to camouflage it as anything but a practical coal bunker.

Architectural Features in Public Housing Projects

Walls

Brick surfaces in public housing projects do not require any decorative pattern or other enrichments. Housing architecture does not raise decorative problems and its interest should remain centered in mass composition, and in disciplined confinement of space between buildings, as well as between buildings and surrounding natural objects such as trees. Elaborate patterns on brick surfaces distract from a clear vision of the architectural composition and destroy the beauty inherent in an uninterrupted brick surface. Some of the houses at the Ida B. Wells Homes in Chicago (page 71) offer an illustration of such enrichment and its effect.

The temptation to accentuate horizontal lines seems to be overwhelming for many designers. There are only two horizontal lines which have sufficient functional importance for emphasis—these are the base and the cornice.

Change in texture or color of wall surfaces can only be recommended when applied on a large scale and in geometrical order. The two Detroit projects (Charles Project and Parkside Homes Extension) are the only good examples which can be offered. When applied on a small scale or on a single building, as in the Valleyview Homes in Cleveland, the attempt fails of its desired effect. The following examples of various efforts to interweave stone members or plastered surfaces in brick walls may prove that such enrichments are out of place in public housing architecture.

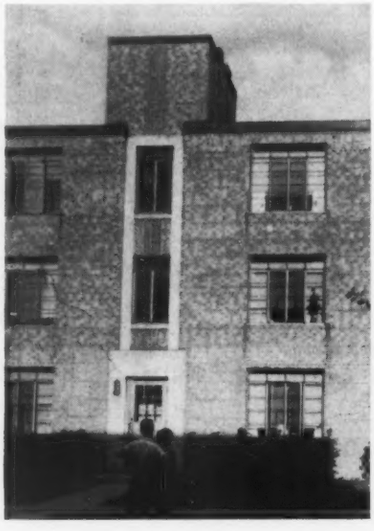
Sculptural reliefs in burnt clay present an architectural enrichment which can give emphasis to selected points on the façades without interfering too drastically with the harmonious effect of the brick surface. The reliefs should avoid hard lines and their sculptural treatment should aim at producing softness in light and shade. There are already a few good examples in existence in public housing projects.

The design of cornices should be simple. Their form should present only a few distinct horizontal lines and should strictly adhere to the scale superimposed on all parts of brick architecture by the actual brick dimension.

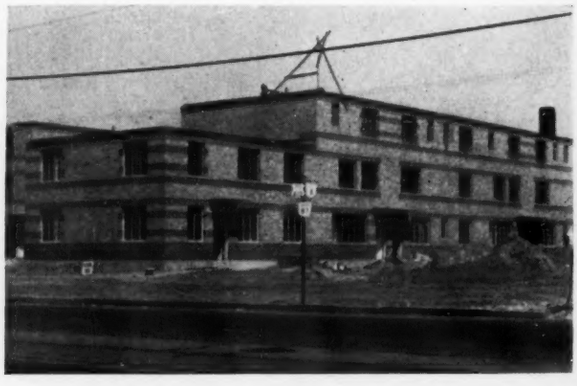
In the pictures of the Charles F. Weiler Homes in Toledo the effect of two horizontal brick bands in the walls can be seen in combination with an accentuation of cornices by means of alternatively recessed brick courses. In spite of the neat detail, the impression remains that the lower band would have been better omitted. The photographs of the four-story blocks in the Ida B. Wells Homes in Chicago show a stone coping in good scale, the effect of which would have been still more satisfactory without the horizontal brick band pattern between the fourth floor windows.

Edgewood Homes, Akron, Ohio

Besides lack of proportion between the elements assembled for a decorative effect, their practical use seems not to be attainable. Stairs (Edgewood Homes) are steep without sufficient space in fron of tthe door—and the canopy will hardly give the desired protection. Neither the stone architraves, which combine two narrow windews above the entrance doors of Commodore Perry Homes, nor the two stone tablets placed above other doors, are a desirable enrichment.



Commodore Perry Homes, Buffalo, N. Y.



Outhwaite Homes Extension, Cleveland, Ohio

Large horizontal bands of bricks in darker color imprint a severe ornamental pattern on the light brick surfaces of the houses and apartment blocks in this project. The presentation of such treatment may have an unusual effect on rendered drawings but proves to be irritating when experienced on the actual building. The reason is that neither functional expression was sought nor were any graceful lines added to the logical mass composition of the buildings.

Parkside Homes, Dayton, Ohio

Sullivant Gardens, Columbus, Ohio

Selected corners are accentuated by means of white rendered squares throughout this project. If applied to distract from unsuccessful window spacing, such forceful treatment may seem justified, but it can hardly be called a proper remedy. This combination of two-story row houses with one-story end units shows that differences in wall surfaces do not conceal unbalanced mass composition but rather point at it.

Canopies and Porches

In all periods of domestic architecture the main entrance to a house was the object of emphasis and decoration. The wish to shield the door opening against rain and wind gave the opportunity to combine practical purpose with esthetic intent. The resulting features—canopies and porches—have become part of public housing architecture; but with the difference that these features occur repeatedly, that instead of one point many have to be emphasized, and that any emphasis when repeated has to fall into rhythmic order. This fact and the general character of simplicity in public housing architecture—resulting from the social idea itself and its financial structure—force upon the designer a high measure of discipline. He has to be aware that architectural features incorporated in public housing projects must lend themselves to repetition.

Most architectural features of the past, which were inspired by the desire to stand out, to dominate their surroundings, are consequently not applicable to our problem. The entire range of wrought iron porches falls into this category. All copper roofs in baroque shape, crowning so many canopies of public housing projects, are fundamentally wrong. Appropriate for public housing are only the compositions of which every part is essential for fulfilling its purpose in the simplest form possible.

A canopy has to shield, and it is more important that it project as far as possible in front of the door and, further, that it overlap the opening sufficiently on both sides, than that the money allowed be wasted on decorating it with a pretty copper roof. A reinforced concrete slab fulfills the purpose. A glance through the photographs shown here will prove that the simplest arrangement is most in keeping with the architectural character.

The same principle holds good for the porch roofs. Trellis work on both sides will give support to creepers. These creepers in turn enrich the features more gracefully than any elaborately ornamented precast columns. The porches of the Charles F. Weiler Homes in Toledo (page 74) present a simple arrangement to perfection. There are naturally also other acceptable solutions.

Below, Charles F. Weiler Homes, Toledo, Ohio.

Poindexter Village, Columbus, Ohio

The impressive picturesque effect of these porches is the result of their minute correlation with the excellently spaced window openings and with the general proportion of the masses. The design of their details shows good scale conformity with the surrounding brick work—fine craftsmanship is characteristic of both. It is regrettable that the porches are not wide enough to offer a shaded outdoor sitting place.

Brewster Homes Addition, Detroit, Michigan

This project gives a rare display of almost unlimited variations on the theme of house entrances and porches. From abbreviated Georgian revivals with stone gables we pass on to brick pillars until we find ourselves in front of the familiar ordinary type of wood porch with the usual small copper roof and the wide trellis of unproportioned diagonal ornamentation.

Brewster Homes Addition, Detroit, Michigan

Next to and above some entrances we find only the elements displayed with which porches could be constructed—if so desired. There are canopies indicated, not solid but only in their open frames and, consequently, without any shielding function. We see trellises nailed flat on the walls, and crowned with gable fragments in stone.

Discussions on Urbanism

The Planning and Housing Division of the School of Architecture at Columbia University has established a study group, composed largely of architects, which is meeting weekly for sixteen weeks to hear the views of engineers, lawyers, economists, sociologists, public administrators, etc. on the problems of urban rehabilitation and to participate in discussions rising out of the questions developed. NEW PENCIL POINTS *is publishing monthly reports of the discussions and procedure, of which the following is the fourth installment. The third appeared last month.*

7 Transportation and Urban Development, by Ernest W. Williams, Jr.; Economist, NRPB; work on NRPB booklet, "The Future of Transportation" and on the book, "Transportation and National Policy." Now assisting ODT, NRPB, and the Army on transportation problems.

Transportation, as it is related to urban development, might be classified as internal and external. Within the city we have personal transportation—trolley, trolley bus, bus transport; in a few of our larger cities we have rapid transit systems. The automobile has extended the field of commutation, freed residential areas from immediate dependence upon mass transportation, and created congested downtown streets, parking problems, etc. In the future we may be confronted not only with a continuation and development of these means of transportation, but also with some development of air transportation even for internal circulation in our larger urban areas.

Most significant is the circulation of freight traffic, a large amount of which is internal and conducted by truck apart from the handling of inbound and outbound freight. Of course, there has been considerable internal movement by railroad in large cities, particularly in New York, northern New Jersey, and Chicago, where rail freight originates and terminates within the local area. In Chicago a somewhat uncommon medium of freight transportation within the city has been provided—a freight subway serving a large proportion of the downtown area.

Internal communications are closely related to external communications; for example, receipt of passengers and freight from other urban areas. In the past this was limited almost entirely to the railroads. The situation now embraces busses and air transportation as far as the passenger business is concerned, and for freight, motor transport, water transport, and prospectively air transport, at least for a certain amount of the higher class traffic. In the future practically all of our cities will rely upon a combination of rail, motor, water, and air transport.

In the past the presence of a good harbor had a strong influence on the growth of large cities. Internal water communications had a great significance in the days before low-cost railroad transportation. Today this continues, but it seems to take a smaller and less significant part.

The terminal problem is perhaps less discussed nowadays than is parking in downtown city areas, congested streets, etc., but freight distribution, its receipt by rail and water, and its interchange within the city area, constitute a serious problem. Careful studies have been made in Chicago to deal with the peculiar situation there, and studies have been made in other cities. One was made by the Federal Coordinator of Transportation in 1933-1934 when he picked out the larger terminal cities; a study rather limited in scope because it was seeking immediate ways of improving the desperate railroad situation. From his calculations, it appears that 46 percent of the operating expenses of the railroads were devoted to road expense in 1932; the rest to yard expense.

Mr. Eastman made a study of the concentration, origination, and destination of freight in the United States. He found that 22 percent originated in 86 large metropolitan terminals. Origination was not as heavy as destination, as most of the freight originates at mines, farms, and forests. But in those 86 terminals 46 percent of the total freight traffic was terminated. In addition, there was a tremendous amount of interchange in large terminals such as St. Louis, Chicago, Kansas City. Consequently, when we speak of the terminal problem we are dealing with a major railroad problem. Over half of their investments are in terminal facilities. It is of vast importance for cities because there is a large concentration of railway terminals in a few metropolitan areas.

In Chicago, some 21 line haul carriers and belt lines serve the area. A number of the carriers entered when the city was young and were able to establish terminal facilities in the downtown area, close to the business center, preempting a considerable amount of land. The coordinator found that if in the area south of the Loop, where there is a large concentration of freight houses, terminals, passenger stations, etc., those facilities were eliminated and replaced by coordinated use and certain new facilities, it would be possible to free an amount of land almost equal in area to the entire Loop district. Because of the concentration of freight facilities, an extraordinary amount of interchange is actually effected there. Carriers, rather than be deprived of long hauls, will interchange freight within the city. The local service affords a good example of the possibilities of coordination by use of the motor carrier which offers the prospect of more efficient service. Already available are some examples of what can be done to consolidate merchandise terminals, and coordinate motor truck pick-up and delivery services to reduce the number of competing services. This plan can be extended to include motor carriers. As the situation now stands, each carrier provides service on an individual basis, although there are certain belt lines which are jointly owned and which do provide some unified services. Eastman's study did not present conclusions regarding the release of land in the downtown areas, relieving street congestion, greater convenience to passengers of union terminals, and better service for shippers. However, it did indicate the desirability of further study of a number of terminal areas in relation to planning and preparing for commercial growth.

Whenever a study of this kind is attempted, the problem of perfecting each carrier's interests arises. It is difficult to get carriers together. Ideal reconstruction calls for substantial new investment and the abandonment of much of the present equipment. It is interesting to note, with respect to Chicago, that in 1906 a city planning commission attempted to unify passenger terminals; the Union Station is an improvement, but there are many other passenger terminals, some of them old and obsolete. With respect to freight, even less was accomplished. In St. Louis and Kansas City a great deal of progress has been made in expediting the interchange of business and of handling originating and terminating business on a unified basis, through associations like the Terminal Railroad Association of St. Louis, and the Kansas City Union Terminal.

Despite the large part that railroad terminals play in the urban picture it is seldom realized what a serious blight they have imposed on the development of cities. We ought to study carefully those things that can be done to improve the situation and the benefits that would accrue —benefits to the carriers, passengers, shippers, and the population at large. We will be confronted in the future not only with the problem of effecting improvements and adjusting ourselves to changes—technological changes, changes in the composition of the business, and in competing types of transportation—but we will be faced with the fact that city terminals, both freight and passenger, are no longer solely railroad problems.

There has been a phenomenal growth of public and private motor transportation. Many commercial concerns own their own transportation facilities. Often they find they can meet base and regular loads in more adequate fashion by providing their own transportation. This has had an important effect upon the development of cities. Likewise, there is the promise of significant developments in air transport.

Motor transport in its initial stages was a small-scale business, fast and flexible, a service with which other carriers could not easily compete. As it grew there were a series of consolidations, and it became a regulated industry with a regular service operated at published rates similar to that of the railroads. Trucking companies use lighter vehicles for pick-up and delivery and transfer to over-the-road trucks in structures that are similar to railroad freight stations. In that respect they have the same terminal problems. In the future I think there is a good possibility of not only a continuation of that kind of transfer but also of more interchange of freight between various types of carriers. In some areas where full car loads can be developed even for short hauls, the railroad has some advantage in cost over motor carriers; for long distance transportation in bulk the railroad has a pronounced advantage over highway transport.

Yet, in the performance of terminal pick-up and delivery, the railroad is handicapped and must rely on motor carriers to accomplish that function. It seems logical to expect that in the feeder services of pick-up and delivery the motor carrier will continue to develop over a widening field and eventually will reach a point where a profitable interchange relationship can be realized. There is a marked hesitancy on the part of the railroads to develop such a relationship, and there is a tendency for railroads to engage in the local portion of the service. Nevertheless, the interchange between motor and rail may become more frequent. Recourse may be had to the use of containers or of demountable bodies. This would eliminate the problem of transferring package freight at the freight houses.

The problem of water transportation is one of interchange of one type or another, with a few exceptions. We have in New York harbor an

example of a very costly kind of development. The harbor has few facilities for direct interchange between rail and ocean vessel despite the fact that a large volume of overseas business is handled here. On the Jersey shore there are tremendous waterfront facilities for interchange by car float, etc., that might well be, for greater efficiency, devoted to direct interchange. There is very poor coordination among the various carriers serving the port. It is characteristic of this country that there is a lack of mechanical handling facilities for interchange of freight with ocean carriers. These problems are peculiar to large coastal ports principally, though we do have them also, in lesser degree, in connection with inland water transportation.

In the postwar period air transportation service can be operated favorably in cost, in comparison with rail Pullman service, and will offer speed and comfort to attract the bulk of long distance business travel. Air travel, however, is not very well adapted to the tourist trade unless the interest is in the terminal point itself and not in the intermediate territory. It seems probable that air transportation within the predictable future will not be able to compete in price with the new all-coach services of the railroads.

A great deal of study and thought is being given to the problem of carrying freight by air. There has been much loose talk as to the extent to which this will be developed. It appears likely that most first-class mail will go by air over distances beyond a few hundred miles. When it comes to express and freight traffic, the field is more limited. Air transports now in production can operate on a basis of about six cents a ton-mile at ranges of 600-800 miles, assuming a full load factor. In practical operation it is impossible to obtain a full load factor and there would be a discount for waste of space. Moreover, ground transportation is of great importance and, in large cities, is expensive. It seems possible that air transportation can compete with rail express in the not-too-distant future at from 15 to 18 cents per ton-mile for delivered freight. However, in order to make any serious inroads on rail or motor freight traffic it will be necessary to achieve a lower operating and terminal cost to bring the rate down, for rail-freight revenues average less than one cent per ton-mile.

Should air transport expand, the terminal problems in large cities will become of great importance. Although there have been technological developments toward successful blind landing, it will be necessary to provide adequate terminal facilities flexible enough to take care of peak loads and the slowing of operation that occurs in times of poor visibility. It will be necessary to arrange fast and efficient delivery of express and freight and for its collection from sources.

Cities are already thinking in terms of four, six, or even more specialized airports arranged in accordance with the type of traffic to be met. Some people are thinking about air taxi service. We are still, however, a long way from such technical development of the helicopter as could make this feasible. Until we reach such a stage, the location of the airport, the time and adequacy of the facilities available, and the character of the equipment used for the selection will continue to be important.*

In the development of airports the tendency has been toward longer runways and higher landing speeds, resulting in larger fields. This makes airport location difficult because land area requirements are excessive. Experiments are under way with jet propulsion and various methods of reducing landing speeds to make possible operation from smaller fields, or alternately to take greater loads. Cities which are able to develop satisfactory systems for receipt and dispatch of air traffic will, perhaps, have some advantages in postwar commercial development. Before the war, semi-mass production made it possible to build light aircraft at prices around $1,000. It was possible to get some forty miles to the gallon and to travel 95 to 100 miles an hour. From the point of view of cost, the airplanes will afford a feasible vehicle, and might have a wide market in the postwar era because there will be many trained pilots interested in flying.

* Headline, Associated Press story, released April 8, 1943: "Air Taxi Service by Helicopters Planned to Take Passengers, Mail from Rooftops. Boston, Mass: Northeast Airlines disclosed today plans for a postwar setup wherein helicopters would be used to carry mail and passengers from town and city rooftops to major airline terminals . . ."

Several factors influence the use of airplanes for intercity transportation. The safety problem is closely related to the weather. Although many small light planes are almost foolproof in operation, the bulk of the public is not trained in commercial transport piloting and in the use of two-way radio communication and other navigation aids. The use of aircraft requires the development of facilities peculiar to it. It is not possible to have an airplane as convenient to the private user as the automobile is. If the helicopter can be developed commercially it may have widespread private use. Perhaps a future development will be small motor cars adapted peculiarly to city operation, with air transportation used over long distances.

What stands out sharply is the need for greater coordination of the various kinds of transportation for the elimination of waste, for greater efficiency, greater convenience to the public, better and cheaper service for shippers and receivers of freight. Vast technical possibilities have been pointed out, yet comparatively little progress has been made.

There have been, in the past few years, notable technical developments in the kind of mass transportation vehicles available. There have been improvements in busses and improvements in passenger cars as far as railroad traffic goes. The modern trolley fits very well into some of the heavy transportation needs in our cities. On the other hand, rapid developments in motor busses have taken place. Some approach in capacity the trolley car and, in general, offer possibilities for faster and more flexible transportation.

What about commutation and the extent of future decentralization around large cities because of the improvement in transportation facilities? There seems to be comparatively little likelihood of any substantial difference in rapid transit and railroad subway service. There is little indication of fundamental changes beyond increasing comfort, installing soundproofing, and producing higher operating speeds. There is, however, speculation as to what may happen to commutation by air. We have had such commutation on a limited basis in some large cities. It has been reasonably successful and it is not unlikely that there will be considerable extension along that line.

It will probably take two forms. One is by private plane. Such commutation service would need appropriate landing areas and service facilities. This would be facilitated to the extent that we got commercial development of the helicopter or some such aircraft. The other type would be commercial service operating in regular transportation designed for commutation traffic. Several such services have been attempted, one or two with some success. Should these two classes of air service be developed there will be the possibility of greatly expanding the residential area, much as it was expanded by motor vehicles, but over a broader area. There will also be the possibility of a much closer relationship between urban centers. Commutation between New York and Chicago would not be out of the question. What that may mean in bringing cities closer together for commercial development is worth speculating upon. We may very well come to the point where we will deal with transcontinental traffic on ten-hour running time, and may handle traffic between New York and Chicago on a three- or four-hour running time basis. This will bring cities closer together and will result in a greater development of business interests.

BIBLIOGRAPHY

Brookings Institute, *The American Transportation Problem.* (Brookings Institute, Washington, D. C., 1933. Chapter XXXIV.)

Broege, John A., *Freight Terminals and Trains.* (McGraw-Hill, New York. Second Edition, 1925. Chapter I.)

Delano, Frederick A., *Chicago Railway Terminals*

Segoe, Ladislas (Editor), *Local Planning Administration.* (Institute for Training in Municipal Administration, Chicago, 1941. Chapter 7.)

National Resources Planning Board, *Transportation and National Policy.* (Government Printing Office, Washington, D. C., 1942. Pp. 1-17.)

New York, New Jersey Port and Harbor Development Commission, *Joint Report,* 1921

Port of New York Authority, 111 Eighth Ave., New York. (Various reports, especially first report.)

8 Industrial Planning, by Robert D. Calkins; Ph.D., Professor of Business Economics and Dean, School of Business, Columbia Univ.; Consultant, NRPB; Identified with NRA, AAA, U.S. Bureau of Reclamation; Author of articles on economics, social sciences, etc.

A great deal of what has gone under the term "Industrial Planning" in the last decade is not planning. Much of it is scarcely more than fairly responsible speculation about the future. For our purposes we may think of the activities comprising planning: the determination of goals, or objectives, the appraisal of alternative methods of attaining goals, a choice of alternative methods, and finally layout and design for execution.

Types of planning vary according to the types of problems to be dealt with, and they vary according to the agency which faces the problem: (1) *business firms*—these being the operating units of our economy;

(2) *voluntary groups of business men* represented by associations and the like, whether national, state or local; (3) *voluntary* and usually temporary *groups of citizens* who are inspired to aid in regional, community or national problems; (4) the *government,* operating through its planning and special administrative committees, or legislatures.

To consider the objectives of these agencies, we may note that business firms are engaged almost exclusively with planning for their own particular future. They deal primarily with their own problems and only incidentally with community or national problems. It is noteworthy that in the last decade the vision of some business firms has broadened; today it is not uncommon to encounter business men who take serious account of community problems and of their own responsibilities. I know of one firm which has already determined that it must provide employment for 60 percent more people than in 1940, before the defense program got under way. The officers do not know the solution, but they are seriously planning their future, with increased employment as one objective. Profit is, of course, an objective, but only one. They are trying to formulate a profitable program that will fulfill their responsibility to the community.

Business groups, operating through business associations, deal with industry-wide problems, but this is essentially business planning which rarely comprehends the questions involved in community planning. Community groups (voluntary groups of citizens) concern themselves predominantly with broader community problems rather than with the business problems of a single industry or firm. The concern of governmental planning is, or should be, the public welfare.

Planning by business firms scarcely existed before 1930. The exceptions for the most part were a few large corporations which found it necessary to predict future trends of population in order to determine future markets. Business planning is now greatly influenced by the necessity of considering the conversion from war- to peace-time production. This forces a company to estimate its markets for present commodities and its potential markets for new products. It considers expansion and conversion plans and, ultimately, it is hoped, it will translate these into action.

Another impetus to this type of planning has been given recently by the Committee for Economic Development headed by Paul Hoffman. This was started by the Department of Commerce, as an independent committee of business men. Its field development program is designed to encourage business firms and managers to survey markets and products and to formulate a program for conversion when the war is over. The Field Development Committee will stimulate individual firms. It will operate through regional, state, and local committees of business men who will suggest how this sort of thing can be done and report the experiences of other firms engaged in postwar planning.

The second part of the program concerns the preservation of small business. A committee is to consider what will be needed to create and maintain opportunities for small business and thereby for men of small means to enter business. This activity is undertaken in the belief that opportunity for enterprise is vital to any economy which is to provide opportunity to work.

The third activity, the research program, is set up to consider types of federal and state policy which would encourage investment and employment—preferably full investment of savings and full employment of labor when the war is over. Some of the research is to deal with long-range problems. Most of it in the first year will deal with the urgent problems that will have to be faced as soon as the war is over. How should the armed forces be demobilized? What kind of demobilization plan can be coordinated with the employment plans of industry? How should war contracts be cancelled? What of the future of government-owned plants? Taxation? Relief? Such matters will be decided in the first year after the war is over; the decisions will determine the kind of economy we are to have for the next fifty years. Someone ought to be prepared to give intelligent advice. The research program is organized to consider such questions, placing the most urgent problems first and the others later.

Now let us turn our attention to industrial planning by community groups which think of community rather than national problems. The objectives of industrial planning by community groups are quite varied. One of the frequent and older objectives is the acceleration of population growth and business growth. Too often this objective is sought without regard to social and economic consequences. Occasionally the objectives concern the retention of population and industry in declining areas. The reduction of cyclical unemployment has been a recent objective in many communities. Some communities have attempted to plan industrial and economic development in such a way as to minimize the amplitude of cyclical unemployment. The reduction of seasonal unemployment by encouraging the development of complementary industries is an objective which appeals to many groups. Another objective for which community planning is beginning to strive is the diversification of occupations and industry in a community. Here one encounters the objection that this represents a search for local self-sufficiency; it entails the loss of the advantages of specialization, and it is, therefore, economically unsound. One needs to approach this practical problem with caution, but there is a case to be made for diversification. It is the case made by Odum in his studies of the South. To provide opportunities for the normal distribution of talents in a population requires a varied economy with a wide range of occupational employments. The South has exported much of its talent. Some of the gains of specialization may be foregone if diversification gives wider range of employment opportunity. From the sociological point of view much can be said in favor of maintaining a fairly wide range of talents and opportunities in a region or community. The term "balanced economy" and "balanced community" will be heard often in planning circles in future.

The limitations of community planning are several. It must be indirect in execution. A group may do all the planning it likes for the development of a community, but it is not the planner who puts the plans into operation. To execute the plans the planner must appeal to other persons, and often to persons with a limited degree of responsibility to the community. A community may undertake to attract industry, but the decision as to whether the industry is to be located there or elsewhere is made by business men responsible for the investment. They are free to reject one community and choose another location. The planner is not infallible. His judgment of what industries are sound for his community is something on which few would want to risk their savings. The mistakes of attracting an unsound venture are sometimes more costly than the failure to attract the industry at all. It is, therefore, not entirely unfortunate that the aspirations and hopes of community planners have to pass the judgment of men responsible for the investment.

A basic weakness in community planning for industry is that it is so frequently done in a slipshod manner. A group of business and professional men with a sprinkling of public officials decides on a community objective. They confer, and without much information they decide upon a plan and the program is launched. No survey precedes the plan. Such surveys are difficult to make and many communities cannot at the time afford them, for they are expensive. As a result, there may be, and often is, irresponsible and short-sighted action with respect to community planning.

Very often the plans or programs fail to consider long-range interests of the community. Let me illustrate and show how difficult it is to control these things. In 1941 we were making a survey of the San Francisco Bay region. That survey revealed that the Bay region had a large proportion of fairly stable industries—principally consumer goods. It has greater economic stability than communities specializing in capital goods. Before the study was completed, and before the information could be used, decisions were reached for the development of the Kaiser Shipyards and other war industries in the area. The long-run consequences of this development will be a major unemployment problem in that region. One can predict that most of the 65,000 shipyard workers will not be employed in shipbuilding when the war is over. Many other war industries will not exist. There will be a plentiful supply of mechanical workers. For years there has been a clamor in California for basic, capital goods industries. They are now expanding. Out of this war development the Bay Area is likely to increase the instability of its economy. These consequences were scarcely considered in launching a development which will have for decades long- and far-reaching consequences on economic life in the area. Such is the penalty of superficial foresight. Such is also one of the prices of war. National planning is intended to promote the national welfare. This is not assured by allowing each community or region to seek its own welfare independently. What is advantageous to one community may be detrimental to another and even to the national welfare. The identification and reconciliation of these conflicting interests are a proper concern of national planning. Ubiquitous problems, such as unemployment, which can not be dealt with effectively on a purely local basis, are likewise a concern of national planning. Conservation, resource development, and many other questions of national interest require solutions by the federal government as the representative of all the people.

National planning is subject to many limitations and difficulties which restrict its effectiveness. It is no more a cure-all for our industrial and economic ills than any of its antecedent fads from secession to technocracy. We shall do planning a disservice by romanticising its potenti-

(Continued on page 96)

Discussions on Urbanism

9 Recreation in Relation to Planning, by Gilmore D. Clarke, D.H.L.; Dean, College of Architecture, Cornell Univ.; Board of Directors, American Institute of Planners; Consulting Landscape Architect, New York City Park Department; Fellow, ASLA; AIA, honorary.

New York's first park of importance was Central Park, completed shortly after the Civil War. Olmstead and his associates, in the late sixties and early seventies, devised four transverse routes across the park so that cross-town traffic would not have to cross park drives at grade. That was a long step forward, although grade crossing elimination did not become important until the automobile became a factor.

I have never known to whom to attribute the farsightedness that resulted in the acquisition of Bronx Park, Van Cortlandt Park, Pelham Bay Park, and the connecting parkways that give to the Borough of the Bronx its vast park area. The Bronx has, however, suffered because of the poor disposition of these areas; its southern part has been neglected. People moved out of the congested parts of the city when we built the subway system, and we created more congestion by the device designed to relieve it. Either zoning laws were not yet in existence, or when they were passed in 1916 we adopted compromise laws because it was impossible to pass others at that time. Density was too great, and park areas or public open spaces are not adequate to prevent the excessive density which now exists in the Bronx, Brooklyn, Queens.

During the period of national expansion and mechanical development we as a nation were bent upon developing our cities, and gave little attention to the amenities—light, air, open spaces. We are bordering upon economic collapse in this city because of the lack of that foresight. Rather than contemplate slum clearance and park provisions independently, we should think, I believe, of setting houses in parks, for that is what modern planning for housing amounts to. You who are housing experts say we ought to occupy 20-25 percent of the land and put the rest in parks. We are trying to evolve an economy which will make it possible to build that kind of housing and to establish it in the environment we know will give us good living.

You cannot disassociate housing from parks, or commerce from parks, or industry from parks. The fellow who goes into the park business ought to know about housing and something about the planning of cities. If he does not, he is just seeing a small part of the picture.

To return to the historical: After the establishment of the park system in New York City, we spread out into the suburbs as a result of subways, automobiles, and electrification of the railroads. About 1906, Westchester County became densely populated immediately north of New York City. Then there came a plan from a group of people which resulted in the beginning of the Bronx River Parkway, the first parkway in this country built through park land.

I bring this up because I want to impress upon you how quickly this Bronx Parkway project became obsolescent. We were building a road 40 feet wide, four feet wider than the ordinary highway, with all grade crossings eliminated. Before 15 years had passed, that project was out of date. We did not think of super elevating curves; the radii of many of the curves were too short; the clearances at the bridge abutments were insufficient. The automobile which, when this project was first built, traveled normally at about 25 miles an hour had soon increased its normal speed to 40 miles an hour. No matter how far we may try to look ahead, it is difficult to anticipate our needs many years in advance. We have to plan in advance, I agree, but when you look ahead (as the regional planners attempted to do in 1925 when they prognosticated for 1965), it appears evident that it is impractical to plan that far ahead in consideration of the technical advances that are normal to our civilization.

After the completion of the Bronx River Parkway, a study was made of land values in Westchester County, and it was found that they were increasing along the parkway. Westchester County is known as the richest suburban district in any metropolitan region in this country, and we have spent there, in a ten-year period, $80,000,000 on park and parkway projects. Many taxpayers regret this now that interest on the bonds has to be paid. Those same people would not sell these projects if they had the opportunity; they are, I am sure, of the opinion that the projects are worth what they cost.

With the formation of the State Council of Parks in 1924, the state park system became as much a factor in the lives of the people in New York City as are city parks. The automobile, the electrification of railroads, and the airplane have made it possible for people to get out into the country. We are living in a period of intensified existence, with many men and women on assembly lines, in factories, and with people living under the pressure of business. It seems all the more important, therefore, that we have recreational facilities so that we can get out into the forests to enjoy the kind of recreation which is not possible nowadays for everybody, but which is most certainly desirable for the majority of the people. Increased transportation facilities will make that possible.

We also have a State Parkway System through Westchester, Putnam, Dutchess, and Columbia Counties. Some day, undoubtedly, these parkways will extend up to the Canadian border, with spurs to New England and from Troy to Buffalo. Why shouldn't we have a network of parkways in the state?

The state is planning a system of through-ways that will extend through the valley belt where 80 percent of the people of this state live—the great agricultural and industrial region. These through-ways are being planned as were the parkways, with the exception that trucks will be allowed upon them. For some years to come they will doubtless take the place of parkways in those sections of the state remote from larger cities. Some day there will have to be another through-way leading from Bear Mountain Bridge diagonally across the state through Pennsylvania and up to Buffalo.

I would like to speak of the relation of parks to housing. Parks must filter through the areas of land devoted to living. We have to provide recreational areas for the youngest group—up to five years—very close to where people live, so that mothers may watch them. Then, provide for the age-group from five to the pre-adolescents and adults who play baseball and other more active games. They can go even farther away from home. Finally, we must provide quiet recreation for older folks. All of these recreational areas have to be integrated with every housing project. It would be wise to provide all these recreational facilities in each neighborhood unit so that each neighborhood is a self-sufficient area. On the other hand, it is not economically possible to provide all forms of recreation in every neighborhood unit. When land costs from $2 to $4 a square foot, it is not always possible to set aside much land for baseball and tennis. But enough for the development of adequate parks and open spaces between the buildings is important. That, too, is part of the neighborhood park system.

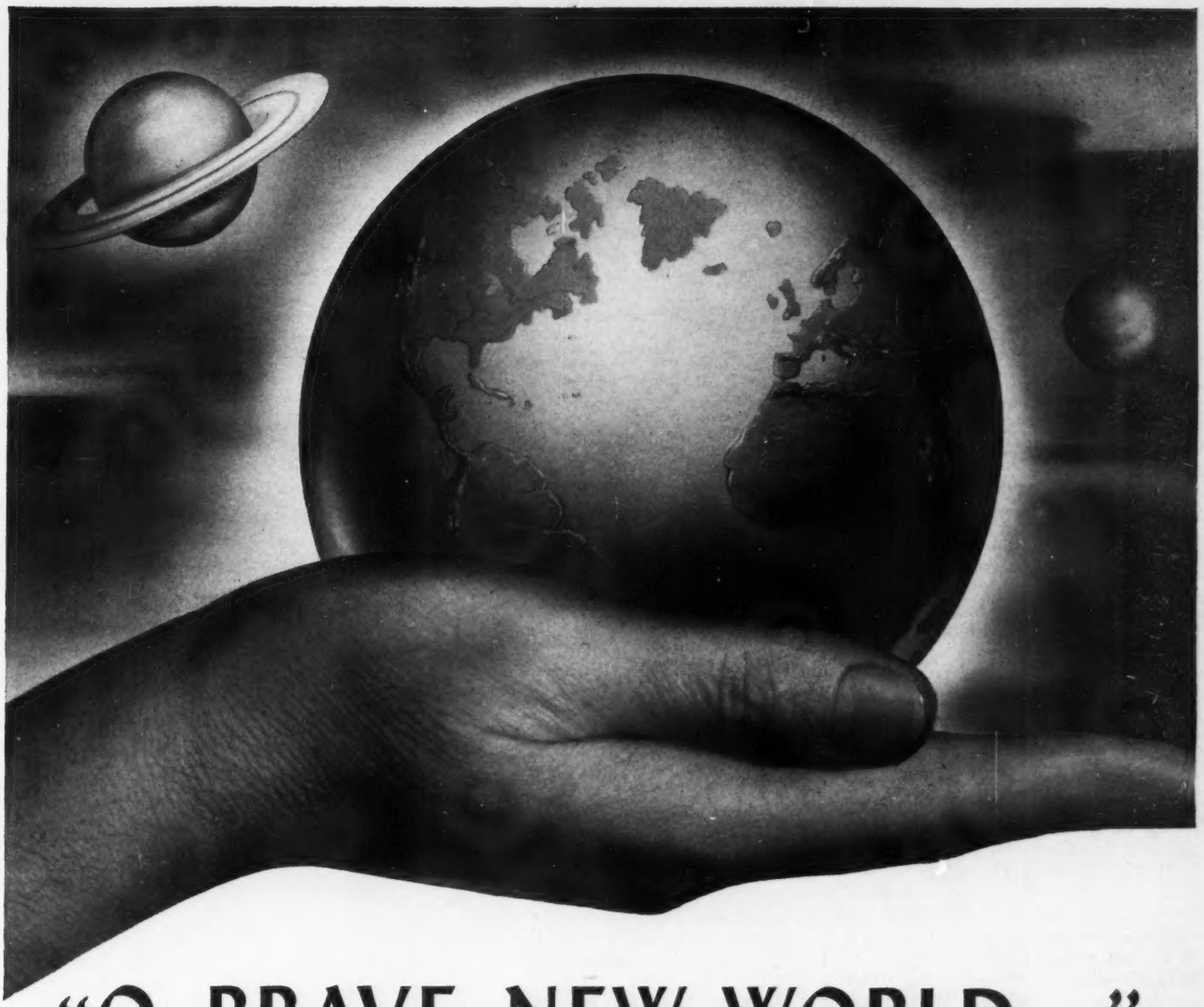
The obsolescent buildings in those sections of our city which are no longer fit for living should be cleared out. In their places new buildings with a lower density should be erected. If we have to build close to industrial centers, we need a stretch of park to provide a green buffer strip and to provide a place to park cars under trees. We should like to bring back to Manhattan some of the people who have moved up to the Bronx, and give them better living in Manhattan than they now have in the Bronx. That is possible. There is no reason why a person who works in the garment center or in the Wall Street section should have to travel to work in the crowded subway. All could live closer to their work, and walk to work. We could provide perfectly good homes for them. Why don't we? "Economy" won't permit it.

We have had slum clearance housing projects subsidized by federal, state, and city governments. These have provided lower rents, too low to begin to pay interest on the investment. Private enterprise cannot do that. Most of us here are interested in finding means whereby private enterprise can do it. When we come to the problem of parks we have to make the argument that parks are worth while, that they are worth all the money they cost because they provide the recreation we need. This means going to the City Council with a budget for the Park Department in excess of the amount requested in 1934, 1935, or 1936. Why? Because during the depression hundreds of parks and parkways were built, and they are expensive to keep up.

What is the argument for passing on a larger budget? You will say the parks provide recreation, they lower juvenile delinquency, they lower the mortality rate in an indirect way. Therefore, they lower the cost of hospitalization, of policing, and of many other city services. We cannot directly measure the good that is due to our parks; yet we are asked to pay the extra costs. In the course of time these economies will be felt in a greater way by the city as a whole, more particularly in the character of its citizens.

I should not close without speaking of the increase in airports and the necessity for having large tracts of land around them. There are no better places for certain types of park areas than in the vicinity of airports. I don't know how many airports we have now. We had over 300 transport planes before the war; now we are manufacturing thousands a year. I don't expect we are going to continue at that rate of production, but it gives you some idea of how the industry will increase after the war.

(At this point, Dr. Clarke showed slides to illustrate various points brought up in his discussion.)



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Books and Periodicals

Climate Makes The Man

By Clarence A. Mills. Published by Harper & Bros., 49 E. 33rd St., New York 16, N. Y. $3.

Dr. Mills, a professor of experimental medicine at the University of Cincinnati, has long been a student of the effect of climate on man. He has lectured before many engineering societies and now he has summed up his findings in this valuable and readable volume.

Climate, heat, cold, winds, humidity, barometric pressure, and the changes of all these influence not only individuals but mobs and even the course of history. The book is full of amazing observations; some of them completely contrary to general belief in medical circles.

Dr. Mills discusses the effect of outdoor climate and indoor or man-made climate on human beings. Tropical climates, temperate, and northerly zones are studied in great detail, and the result seems to be that the most invigorating, healthy, and productive climates can be found in certain parts of the temperate zone. Even here, however, various periods of the year are conducive to more or less vitality. He observes that 27 of our 30 presidents were conceived during the eight months from December to July and only 4 during the remaining third of the year. With the zealousness of a specialist, he believes that the greatness of Washington and Lincoln were probably due to the fact that they were conceived in May which is the year's peak of vitality. While this opinion may sound far fetched, it is based on rather solid experiments with animals whose controlled living quarters were air conditioned and whose behavior was studied for long periods of time.

Smoke and steam contamination of the atmosphere receives its proper share of attention by Dr. Mills and certain remedies are offered. These days when town planning is so seriously and generally discussed among architects, the paragraphs discussing air contamination make wonderful background reading. You will feel like rolling up your sleeves faster and getting to work on decentralization. Indoor climatic conditions are discussed from a medical point of view.

The fact that one of the best methods to devitalize air is to blow it over a hot metal surface makes practically all our present day heating systems obsolete. Dr. Mills' conclusion is panel heating and even panel cooling. The trouble with the latter is that it requires a shiny foil lined room which, of course, works for a very unpleasant interior.

A great deal of the book is devoted to such discussions as "Thermometers and History," "Climate, Weather and World Domination." The influence of sun spots, barometric conditions, and unusual cold seasons changed the path of history and civilizations. The exact timing of the French Revolution, our war of independence, even the start of this war was conditioned by underlying climatic changes, Dr. Mills points out.

This book is one of the most interesting examples of "background" reading matter with which an architect should be familiar. There isn't any doubt that the greatest revolution in mechanical equipment of buildings will come in heating methods. It is well to have a general knowledge of the subject, which will influence the designer of the heating systems of the future. There is, of course, very little actual practical application data of the results of this research to building practice. This book, however, should be read concurrently with the very excellent paragraphs on the same subject in the yearbook of the Society of Heating & Ventilating Engineers, which brings all the facts down to earth and rounds out Dr. Mills' book for the architect.

JOSEPH DOUGLAS WEISS, A.I.A.

On Being An Architect

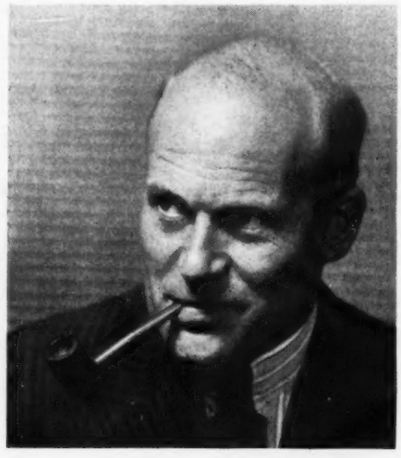
By William Lescaze. (Published 1942 by G. P. Putnam's Sons, 2 W. 45th St., New York. 287 pages, 5½ x 8", illustrated, $3.)

Such a book as this presents a large task, in the writing and the reviewing. In it Lescaze seeks to explain to his associates in the field of architecture, as well as to the layman and the student, the ideals, problems, and organization of an entire profession. That he is writing about the one profession which is at once artistic, scientific, and business-like, makes the task no smaller. This complex profession needs not justification but explanation in order to do away with the monstrous number of incorrect assumptions concerning its workings.

Fortunately for us all, Mr. Lescaze takes up the sword for contemporary architecture in his opening sentence. Making no excuses (and indeed none should be made) for his stand, allowing for the honesty of no other viewpoint, he marches right into the somewhat bloody fray. In a conversational manner he presents what almost amounts to a handbook for the young, embryonic architect. Though often repetitious, the book gets said many important things, not the least of which is this from the first page:

"Regardless of painstaking application, regardless of masterly technique, a copy of a building designed by Palladio can never be a creative work of art, no more than a copy of a work by Rembrandt can be anything but a copy; and it can be no more than a good or bad copy." With some justified bitterness he speaks of the common conception of the architect today as the artist who puts the frosting on the cake—an attitude prevalent among, and augmented by, the traditionalists who are willing to compromise with reality. Obviously a man who will trim a contractor's box with psuedo Greek-Roman pillars, acanthus leaves, and the egg and dart motif, can be nothing more than a copyist decorator. As Lescaze says, nothing is more absurd than a contemporary library done as a medieval church, lacking light, air, and freedom of circulation—the essentials of a library. The public suffers from a sickness of taste engendered by the copyist who made these ghastly errors in judgment. All architects suffer for those many bad judgments; for the public's critical abilities have been so dulled that they are not willing to accept architecture on merit but desire only what they are "used to."

In discussing the "Effect of Architecture on Your Life," Lescaze makes the interesting point that Europeans like Washington, D. C. because it reminds them of home—home being a European country—and that tribute to our democracy is a bitter pill to swallow. We, who had open unspoiled country to work



William Lescaze

with, imitate obsolete forms of imperialism from overcrowded Europe. The author comments with wonder upon the willingness of investment companies to underwrite buildings which almost immediately become obsolete.

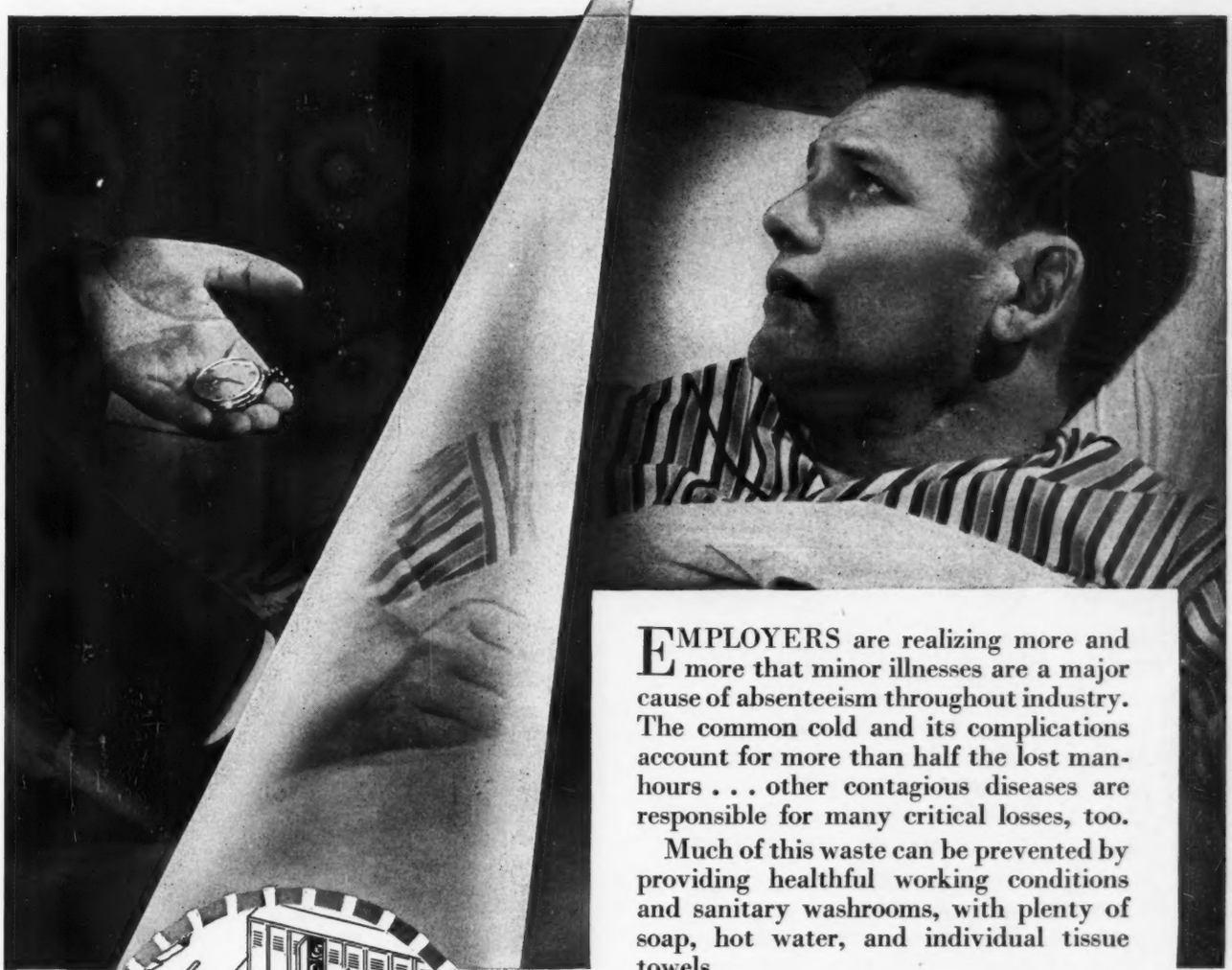
An important chapter is devoted to critics and labels. The absence of space devoted to architecture in newspapers and popular magazines is appalling. It keeps architects' work from the public eye, and fails to publicize the services of the architect or to rate architecture as an art. In contrast he cites examples of music, painting, and the dance, each of which has a regular daily critic. In Britain much more is done in the way of public criticism. Of course this comment excludes our architectural magazines, but these reach few laymen and so do not replace newspapers. Again Mr. Lescaze drives home his point that modern is synonymous with contemporary and does not indicate a "style." For those who so often confuse the terms modern and modernistic, he supplies excellent definitions.

A strong criticism should be made of his pacifier chapter called "Architecture and the Allied Arts." The preceeding chapter somehow dribbles into this one, and what is designed to put more at ease the muralist and sculptor, whose work is eliminated by the plain-wall moderns, seems to do the opposite.

(Continued on page 86)

First Line of Defense Against Absenteeism...

The "HEALTH ZONE" of the plant



EMPLOYERS are realizing more and more that minor illnesses are a major cause of absenteeism throughout industry. The common cold and its complications account for more than half the lost man-hours . . . other contagious diseases are responsible for many critical losses, too.

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(Continued from page 84)

Not forgetting the perpetual difficulties of the honest architect with the real-estate promoter who wants something quick, cheap, and safe (safe, meaning traditional style with bric-a-brac to cover up unsound construction) Lescaze discusses the lack of understanding between business interests and the architect who has the contract for a building. The ignorance of most businessmen as to the services offered by the architect Lescaze finds a colossal impediment to performance of the contract, or of even obtaining the contract in the first place. He rightfully says that the architect is not considered an intelligent coordinator who can cut costs, as well as a designer. He believes cost control to be one of the most important of the architect's services.

The second portion of the book is devoted to the student; and because many things in the architectural field are hardly obvious to the student (who emerges from unreal school life ill-equipped with practical knowledge) this may easily be the most important part. In "Do You Want to Be An Architect?" he posits questions to determine the wisdom of continuing in the architectural field. Apropos the often misleading training of schools which use purely theoretical problems, he states: "The architect needs the reality of human beings, the knowledge of their requirements . . . the reality of definite site conditions, before he gets to work." This is seldom realized by the layman who says, "I want to build a house. Will you draw me some sketches? No, I don't have the land as yet."

Two of the most concise chapters are on "The Training of the Architect — Where to Get It," and on "Present Day Practice." In these are listed and described the programs offered by, and approximate costs of, the country's best schools; and the difficulties of producing bureaucrat-engineer-architecture. His criticisms are good meat for all those who have been civil servants in architecture and for those wise enough to pause before becoming involved in a system designed to crush the architect's important asset: ability to design freely. This reviewer feels strongly from actual experience that such a warning is definitely in order. During this war the architect in the bureau is no more than a draftsman to the engineer and must see a pitiful amount of material waste and overdesigning as plans come from the engineer's hands.

In "How One Gets a Job," the steps to becoming a registered architect and a member of the only—and much needed—unifying architect's organization, the AIA, are well laid out. "War and Building" and "The Architect's Role Today" taper off into more vague but sometimes important generalizations, although Mr. Lescaze's hopes for unity and accomplishment (in the long range view) for building during the war are so far unfulfilled.

Many times in the course of the book the reader will stop and smile. A sort of dry humor infects some of its pages. Perhaps the prime example is a letter asking Lescaze to do plans for a residence just

outside Live Oak, Fla. "The land is sand and subject to 'lime-sinks' ". The list of hazards the architect should bear in mind ran to eleven items, the most ferocious being: armed invaders, bombs and shells, meteors (small), 300-degree heat, 200-degree cold. The client goes on to say: "Such a house would have to be built somewhat underground." He wished to have food stores for ten years, everything to be automatic, every part lasting 100 years. In closing he wrote: "If you are interested let me know. I read about you in *The New Yorker.*" Mr. Lescaze' comment: "This is the ultimate house; I see no other way out."

The book has much to offer. The only disappointing aspect is that, to a modern architect, it merely reaffirms belief; and, to the traditionalist or non-architect, its flaws (chiefly confusing repetition and lack of forcefully wrought conclusions) may lead to discounting its many merits. A more concise presentation would have helped the lay reader. But such a book is needed.

MARGARET GREENOUGH KING

The Road We Are Traveling

Guide Lines to America's Future. By Stuart Chase. 106 pages.

Goals for America

A Budget of Our Needs and Resources. By Stuart Chase. 134 pages.

(Numbers One and Two of a series of six exploratory reports to the Twentieth Century Fund, published under the general title, "When War Ends." $1 per volume. Twentieth Century Fund, 330 W. 42nd St., New York.)

The literature on postwar planning has already produced a respectable flood which inundates the time capacity of the average reader. Few writers can resist the temptation (or it is a publisher's "must"?) to dilute what might fill an informative magazine article to the imposing format of a heavy tome. Pressed by events, they have to produce their predictions in a hurry or run the risk —if they take time to write carefully— of having the book they produce outstripped by events the moment it comes off the press. The publication, therefore, of a number of smaller books which can be easily read in one evening—and are always valuable for reference—is a commendable accomplishment.

Another merit might be the ability of the author to come to grips with his problems without rhetorical frills and without resorting to "underground" information. Directness of approach and the vigorous simplicity of Chase's writing, which are apparent in the first two volumes, promise a very informative description of our economic situation after the war.

Stuart Chase goes back far to explain events of 1943. He starts his interpretation of events in 1913, but he might very well have gone back some 40 or 50 years more to a time when the first machine-age methods brought scientific efficiency into production and destruction. We are

(Continued on page 88)

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(Continued from page 87)

bound to be wrong whenever we treat our present entanglements as a result of happenings of the last ten years. We are equally wrong whenever we see our present worries as competition for power by a few nations (or persons); and not as the consequence of the industrial revolution which shakes our society as a "One World" problem. The productive potentialities of science and industry are stronger than the political status quo.

Stuart Chase can make facts and figures lucid. We must come to a balance of free enterprise and control. We must come to a wider concept of "public works." We certainly cannot go back to 1933, or to 1913, or to "business as usual."

Although the architect is never mentioned in these books as a constructive force in reconstruction programs (which are mostly seen as economic problems) he certainly is apt to dominate the chapter, "Shelter", which is one of Mr. Chase's five great categories of minimum standards: food, shelter, clothing, health services, and education. The architect, too, is bound to be wrong if he would see his job as an isolated problem—the opportunity for building houses. Only if he comes to grasp the full breadth of world-wide economic problems can he find the basis for his individual construction. Neither assembly lines nor prefabrication can provide a sufficient answer to problems which confront the architectural profession after the war.

The figures which Stuart Chase records (like estimates for needed construction of dwellings after the war) are not new, but he brings them into relation to other needs, and to our budget as a whole. He advocates a mixed economy which brings public and private enterprise into an overall planned cooperation, and in which the government has to contribute more than just the control. Basic issues and fundamental trends are concentrated.

The tentative list of titles of later books in this series covers problems of postwar finance and foreign commerce.

KONRAD F. WITTMANN, A.I.A.

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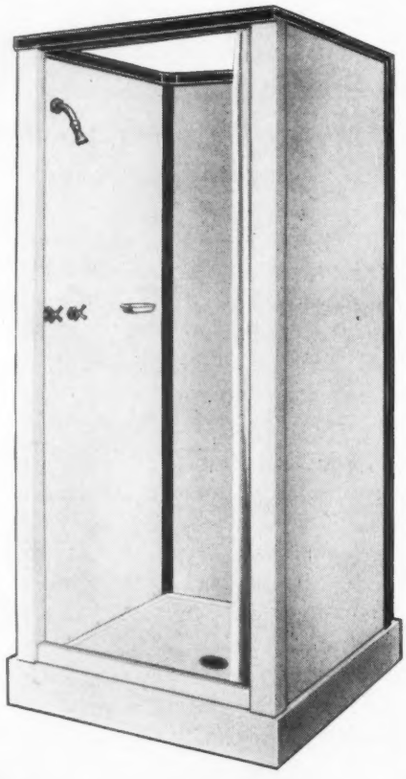

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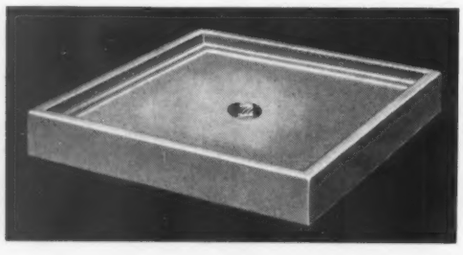

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Outline of European Architecture

(By Nikolaus Pevsner, Published by Penguin Books, Ltd., London, 1942. 9 pence. Not obtainable in the United States; probably not obtainable in England as edition has sold very fast. There is a slight hope of reprinting in the United States at a much later date.)

Dr. Nikolaus Pevsner has undertaken a very definite, circumscribed, single-service, type of book only and has achieved just that aim without straying into tangential paths, without odd bits of information tacked on here and there because of personal liking—pitfalls into which many architectural historians fall.

The issue handled in this suitably formed little book is "Western architecture as an expression of Western civilization, described historically in its growth from the 9th to the 19th century." Dr. Pevsner takes the freedom of defining European for his purpose as Western in character. "For Western civilization is a distinct unit, a biological unit, one is tempted to say. Not for racial reasons certainly—it is shallow materialism to assume that—but for cultural reasons."

He has, and relays to the reader, a deep understanding of the mental causes for growths in architecture, placing no more than minor stress on the material supplies and conditions accessory to certain forms: "A style in art belongs to the world of mind, not the world of matter." When making his introduction to Italian Renaissance he says: "Now a flourishing trading republic will tend to worldly ideals, not to the transcendental; to the active, not to meditation; to clarity, not to the obscure. And since the climate was clear, keen and salutary, and the people's minds clear, keen and proud, it was here that the clear, proud and worldly spirit of Roman Antiquity could be rediscovered . . . "

He is free of the habits of thought under which so many recognized writers on architecture once placed themselves (that was long, long ago, but the bonds endure) and which so many never even resented being bound by, thereafter. He has no wordy clichés, no smothering 19th century cerebrations. Instead there is clear, unafraid soaring in whatever direction natural deductions lead.

(Continued on page 90)

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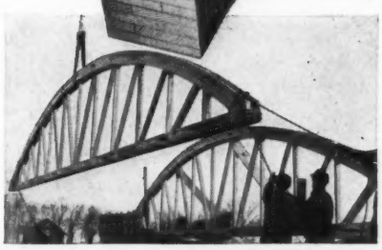

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(Continued from page 88)

In his foreword he advises the reader what to expect in his history of Western civilization's architecture, and why. Three limitations are set: (1) "that one building must be accepted as sufficient to illustrate one particular style or . . . . point"; (2) that everything of merely marginal interest is left out, i.e. such items as Stonehenge (prehistory) or Greek temples (antiquity); (3) and last, that events of the first 1,000 years A.D. are omitted because, having been centered in the Eastern Mediterranean, they make up a civilization of their own, having a character fundamentally different from the Western as well as from the Greek and Roman.

There are two and one-third pages of introduction which can profitably be absorbed by students of architecture and even by laymen. Pevsner's words clarify and strengthen the instinctive evaluations at which many persons arrive unconsciously. A portion follows: "Architecture is not the product of materials and purposes—nor by the way of social conditions —but of the changing spirits of changing ages. It is the spirit of an age that pervades its social life, its religion, its scholarship and its arts. The Gothic style was not created because somebody invented rib-vaulting. The Gothic spirit existed and expressed itself in rib-vaults, ... before the constructional possibilities of the rib had been discovered. The Modern Movement did not come into being because steel frame and reinforced concrete construction had been worked out—but they were worked out because a new spirit required them."

Illustrations, reproduced by collogravure plates, are splendid considering the low price of the edition. There is a four-page bibliography, a list of technical terms with explanations, and an index, plus a short biography of the author who, born in 1902, studied in Germany, was on the staff of the Dresden Gallery, lectured at Gottingen University, has written a number of books on art, and is now lecturer at the University of London, Editor of the King Penguin Books, Assistant Editor of The Architectural Review.

M. F. W.

* * *

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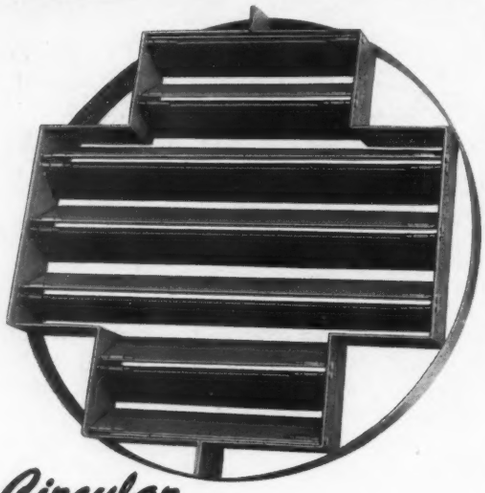

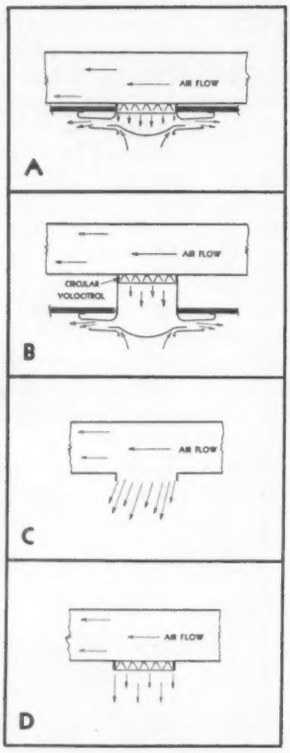

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Periodicals

Canada

Journal, Royal Architectural Institute of Canada. (April issue.)

Summary is given of the 48-page booklet, "Canada, What About Housing," a report of the housing conference arranged by the Ontario Association. This publication is obtainable from the Canadian Institute of International Affairs, 230 Bloor Street West, Toronto.

A report of the meeting of the Executive Committee of the Royal Architectural Institute includes mention of efforts being made by the committee to enlist the support of the Canadian Institute of Public Opinion in undertaking a "Gallup poll" of the women of Canada to determine popular types of housing desired under a postwar program.

A description is given of the new architectural elements made possible with construction glue, rating them not as a substitute for steel any longer but as an alternate. This development is especially important at present because of the metal shortage.

England

The Architects' Journal. (Issue of April 1, 15, 22, and 29.)

Mention is made in the April 15 issue of The Design Research Unit launched by the Advertising Service Guild and headed by Herbert Read. This is an organization to which a manufacturer can apply for advice on the design of his goods, for education of the public, for research, and for putting client and designer in touch with each other.

The Directorate of Postwar Building of the Ministry of Works issues statements from time to time on the results of its Study Committees; this material is here reported as scheduled for summary in *The Architects' Journal* in future issues.

A new type of traffic plan for main road intersections is illustrated, and the claim is made that it solves the disadvantages of the three known methods: the fly-over, the internal cross, and the cloverleaf.

(Continued on page 94)

Prefabrication has many champions. Certainly, something fine will result from the wealth of Imagineering that is being aimed at the housing problem. One thing we know, for a fact. Manufacturers are thinking seriously of standard, prefabricated utility units around which to design nonstandardized exteriors. And the material they're counting on using a lot of is aluminum.

It's no exaggeration to show two men carrying a unit this size so easily. It is a picture we see daily in dozens of plants, except that the parts are for airplanes. The men and women building those assemblies have developed skills which won't be forgotten when peace comes. They'll be put to work, for example, on architectural products.

You'll gain, with aluminum widely used in home building. Its lighter weight will simplify your design and construction problems. Its long life will permit you to guarantee lower upkeep costs. The many attractive surface finishes possible with aluminum will give you a new tool for creating unusual and interesting effects.

Plan on lower costs for postwar aluminum products. The ingot price is 25% lower than in 1939. New manufacturing techniques and large quantity production will let you discard all your old estimates, when you begin figuring on using aluminum. ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

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(Continued from page 90)

Illustrations and text are given on the Preston replanning scheme, an unofficial spare time effort by a local firm of architects, Grenfell Baines and his partners, directed solely towards making Preston citizens conscious of town planning problems. This scheme formed part of Ralph Tubbs *Living in Cities* exhibition held in the Preston Art Gallery. It is judged that the Preston attendance at *Living in Cities* was about ten to eleven times that obtained in other towns on the northern tour of the exhibition. Credit is given to the skillful publicity and backing given to the main exhibit by these local architects' work on their own particular area's problems.

Under the *Notes and Topics* column several interesting problems are taken up, including England's need for two separate programs for postwar housing, the first to cover immediate postwar, short-term rebuilding policy, approximately a ten year matter, and the second to cover the long-term policy suitable for more stable times.

United States

Architect and Engineer. (April issue.)
This issue features Francesca Terrace, a war housing project at Benicia, by Russell G. deLappe, architect, and the FPHA. These dwelling units comprise 18 of three rooms, 122 of four rooms, 68 of five rooms, and 9 of six rooms. Fourteen different floor plans are used. "Custom-built" is the term used for these structures, implying more special care for individual specifications than in the case of the average house of mass production.

California Arts & Architecture. (April issue.)
A new gallery-workshop is being opened in Los Angeles by American Arts in Action. Its purpose is to improve techniques and raise artistic standards in decorative arts and handicrafts and to provide a steady outlet for craft work of outstanding merit. In addition to the gallery division, there will be the workshop where artists and students in action will demonstrate their handicraft techniques. A hope of the organization is to sponsor a Museum of Modern Art in California.

Illustrated is another of the Neutra houses, built for John B. Nesbitt in Brentwood, and a house, designed by Gregory Ain, built for Mr. and Mrs. Jan Domela of Tarzana, Calif.

Interiors. (April issue.)
Two pages are devoted to illustrations and description of Paul Frankl's newest venture in Los Angeles—"potted plants artistically dramatized by his skill in combining unusual plants with uncommon containers in a creative manner". Photographs of some very lovely interior pieces can stimulate further experiment in this field of design.

There are good photographs of some of George Farkas' recent work—Pan American terminal building to be built after the war, and the Little Palm Club at Miami Beach.

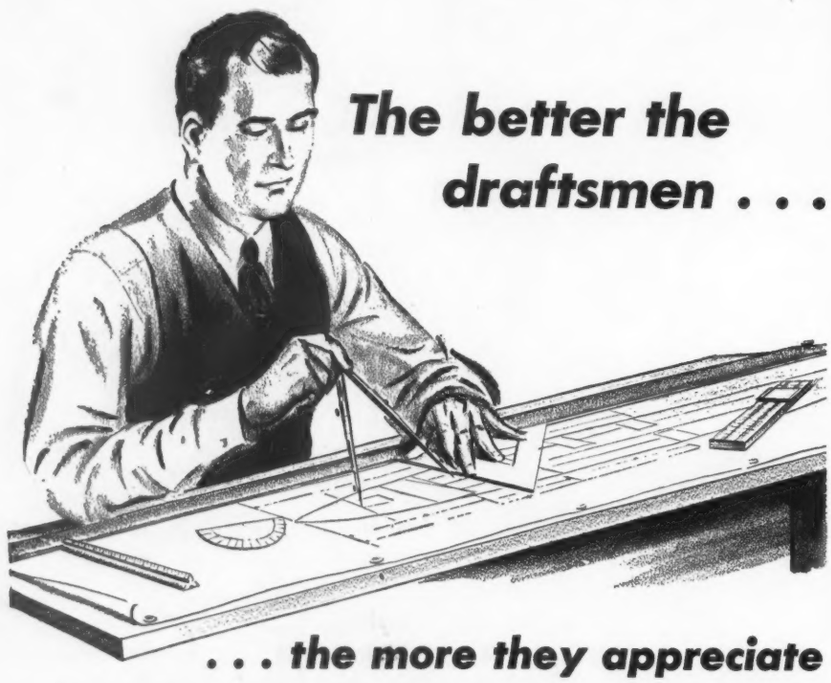
New trends in industrial design by the School of Design in Chicago are shown, including furniture, pottery, useful and decorative objects.

Tomorrow's Town. (May issue.)
The May issue of *Tomorrow's Town,* published by the National Committee on the Housing Emergency, deals with the questions of postwar housing, as do so many other publications nowadays. Contributors include representatives from Johns-Manville, American Houses, William J. Levitt & Sons, American Bankers Association, Federal Housing Administration.

Robert L. Davison brings up the well-known fact that "building codes . . . have not kept pace with laboratory and engineering developments." He makes the suggestion that the "engineers of the Bureau of Standards write an off the record report giving real facts on minimum requirements."

Howard P. Vermilya, Director, Technical Division, FHA, writes a really knowing piece on the steps from the old to the new in housing.

Robert McLaughlin puts forth a plea for more research in building materials, research for use, not merely research instigated by the profit motive.



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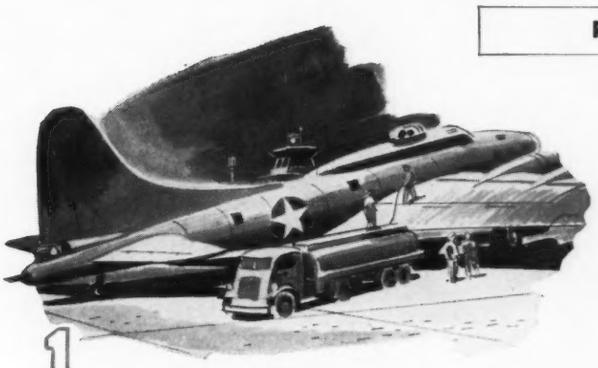


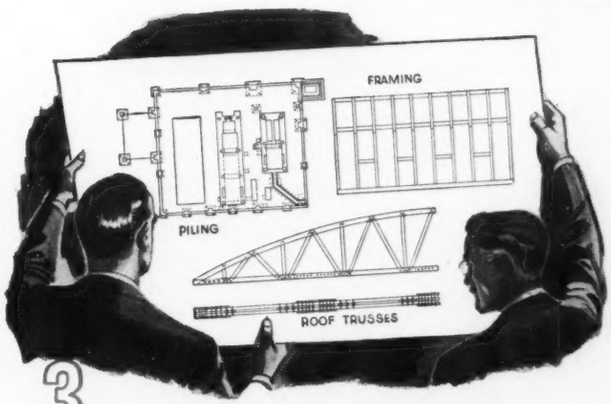
1

Current—Besides going into millions of square feet of roofs for war plants, Koppers coal derivatives today are helping produce more food (through fertilizing materials obtained from coal), better aviation gasoline (through the use of benzene, recovered from coal), synthetic rubber (also through the use of benzene), more aluminum (through electrode pitch used in recovering aluminum).

2

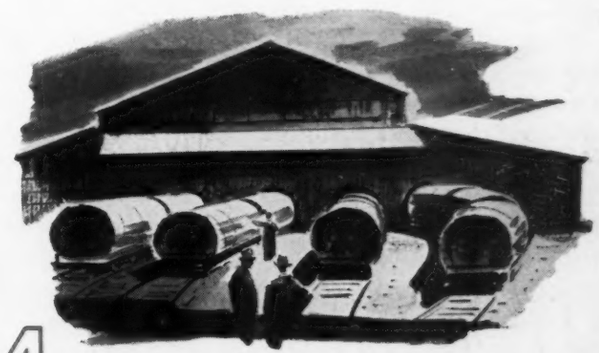
Contemplated—1941 and 1942 were two of the biggest years in the entire history of coal tar pitch roofing. More of it was used during that period. More valuable lessons were learned about its values. Now, with the great rush of war building construction scheduled to ease up soon, more and more of this long-lasting, maintenance-free roofing material will be available for civilian uses.

Pressure-treated Wood



3

Current—Many new and diversified uses appeared for pressure-treated wood, as architects and engineers, under the stress of the vast wartime building program, searched for materials more durable or more economical . . . and discovered the great possibilities in pre-fabricated pressure-treated wood.



4

Contemplated—Architects and engineers have found that the use of pressure-treated wood, as permanent construction material, involves no sacrifice . . . in fact, it actually improves the installation in many instances . . . and they are planning to extend its use in normal peacetime construction.

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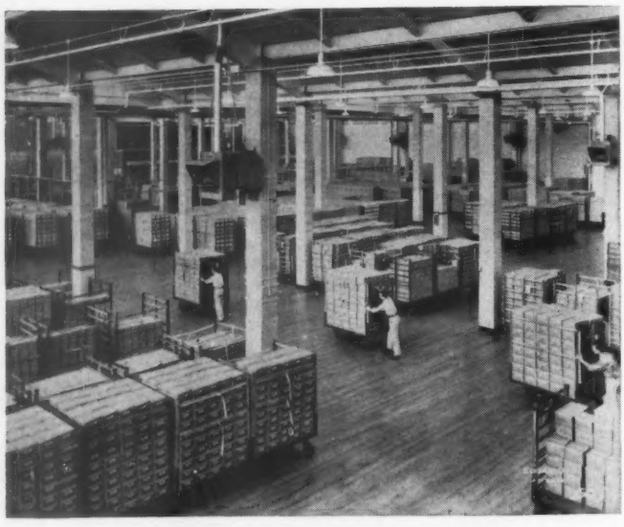

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INDUSTRIAL PLANNING

(Continued from page 81)

alities. National planning is subject to all the limitations of community planning. It is peculiarly subject to others.

National planning is necessarily vulnerable to attack since many of its recommendations for the benefit of one region or group are detrimental to others. The personnel and the planning agency thus become the target of attack by every group to be adversely affected. If the benefits are indefinite while the adverse effects are definite, the attack is correspondingly more telling and the defense more difficult. Those in positions of responsibility are held accountable. For this reason enlightened public opinion is indispensable if planning in the public interest is to have continuity. The fear of public opinion constrains planning groups to be diplomatic in their proposals.

One of the more serious defects of national planning is its tendency to standardize. As a nation we are not ready for the leveling effects of standardization. One of the attractive features of this nation is that it offers regional variety in culture, in architecture, in scenery, and in life. That people can travel and find variety and release from the routine of their own localities is recreational and educational. Planners have not yet stopped to think how important it is to maintain this diversity. Instead, for administrative convenience, diversity is discouraged because it is an administrative nuisance. The planner's problems are greatly simplified if he can impose the same plan on everybody. This trend toward standardization is being accelerated by planning. The movement and migration of people is bound to bring it about in some degree. The planner should not accelerate it unless he does it wisely, with a full consciousness of his goal, and after concluding that it is desirable.

Industrial planning on a national scale by government has nowhere approached in scope and detail the planning of the U.S.S.R. There government had the centralized power to execute the plan. In both Italy and Germany the centralization of authority made comprehensive planning attainable. No such planning is feasible in our system where most of the responsibility for action rests with private individuals and business firms and not with the government. I do not deplore this situation, though I fear that planners are in some cases becoming impatient for authority. Voluntary action through persuasion may be an administrative nuisance, but it is an invaluable check on the mistakes and the autocratic power of those who wish to mold and shape our economic and industrial life.

Industrial planning in this country operates differently. It studies objectives, alternatives, and methods. It seeks through information and persuasion to guide regulation, and through public works and public policy to mold the environment for the development of industry. It recommends policies for dealing with special industrial problems. Providing necessary or helpful information for the guidance of industrial development is an enormous task which we have scarcely begun. Resource surveys, studies of market potentialities, cost and location studies, analyses of industrial trends, and investigations of beneficial developments for social and economic life are all needed for the shaping of sound public policy and stable industrial development. This type of planning national agencies can do.

Contracts for war work have been heavily concentrated in metropolitan areas. This may give those areas some industrial advantage over areas not so well served by war contracts, but it will also give them some of the most difficult adjustment problems, including that of unemployment.

The war has definitely accelerated the growth of new manufacturing areas. If they can convert successfully, California, Texas, and many middle western states will be industrially far advanced by the war. They will have a major conversion problem, however. The 70 percent increase in manufacturing wage earners in California, for example, is found largely in aircraft and shipbuilding industries. The drastic curtailment to be expected in these industries will present a staggering unemployment problem unless new substitute industries are started when the war is over. As a consequence of war industry, the economy of California is extremely vulnerable. Many other areas are in the same situation.

If past experience is any guide these newer industrial areas will retain much of their recently acquired population. This will shift potential markets and, therefore, the appropriate location of industry, thus creating job opportunities in the newer areas. The war has accelerated in-

(Continued on page 98)

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(Continued from page 96)

vention and innovation. Improvements in products, in raw materials, in processes will change the character of manufacturing tremendously. War industries have acquired experience with labor and costs in branch plants located in new areas. Out of these developments will come far-reaching shifts in the location of manufacturing and in the channels of domestic trade. To these potential developments must be added the large influence which governmental policy may exercise. If it advocates policies favoring regional diversification of economic activity in the southeast, and industrial balance in other areas, the postwar geography of American industry will bear little resemblance to the prewar model. If it uses government-owned war plants to create "trading estates," like those in Britain, or develops such facilities for lease to private firms, it may considerably influence the manufacturing employments in depressed areas. Proposals to develop such publicly-financed facilities can be expected from both the communities needing such assistance and from the state and federal governments which may provide them. These are possible developments, but what planning agency has the wisdom to say what the pattern of American industry should be, or to do more than suggest potentially beneficial policies to guide communities and firms?

Community planning for industrial development presupposes a lack of equilibrium in the geographical distribution of population and industry and an ability to direct their migration to improve national welfare. That such lack continues to exist in our dynamic society of incompletely developed resources and technological change, is evident. That migration in a free society can be improved by planning has yet to be demonstrated by events.

If we are to undertake to shape postwar industrial development by community and national planning, as now seems likely, we shall need to develop first a much larger body of organized knowledge of the economic causes and effects of industrial migration. We shall also need to know more of how industry shifts and how to shift it without incurring the waste of uneconomical production, subsidies, and capital losses.

We still know too little regarding the factors governing the choice of economic locations. Should emphasis be placed on markets, labor supply, wages, transportation facilities, available materials, low taxes, or something else? Obviously all are important to the firm appraising alternative locations, but they are not of equal importance or of the same importance to different industries. The few surveys which have been made on this topic suggest that factors commonly considered important are relatively unimportant in the valuation of sites by firms seeking new locations. Concessions in taxes, for example, are found to be twelfth in order of importance according to one survey of firms which had moved. Cheap land was fourteenth and banking facilities sixteenth, at the bottom of the list. The five most influential factors were markets, labor, transportation facilities, available raw materials, and available factory buildings.

These factors, in light of wartime developments, suggest that the postwar years will bring numerous shifts in the location of industry. The distribution of population will have changed materially, creating potential markets in new areas and restricted markets in some old areas. The distribution and quality of labor will have changed. Transportation services will be revolutionized and rates may be changed. A revolution in materials and products will have occurred. Enormous factory space will be available. When the war is over the government will own upwards of one-third of the manufacturing facilities in the nation. These it has built since 1940. Whether these facilities are scrapped, leased, sold, held off the market, or operated will make a tremendous difference to the future geographical pattern of industry. All of these factors combined will create a potential mobility exceeding anything we have experienced heretofore. If planners can influence the location of industry to improve national welfare the postwar conversion will offer the opportunity to demonstrate it.

We here are especially interested in urban development and industrial planning for urban areas, which must proceed in full recognition of current conditions and trends. For this reason it is appropriate to consider the prewar pattern of urban economic life and some of the shifts which have special significance.

The pattern of economic life may be shown roughly by the industrial occupations through which a population earns its livelihood. Table I shows this distribution for the United States as a whole, for rural and for selected urban areas. The patterns of activities which make up our economy are quite different in rural and urban areas, and

(Continued on page 100)

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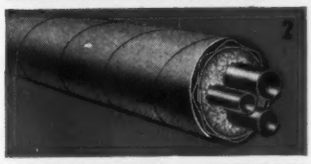

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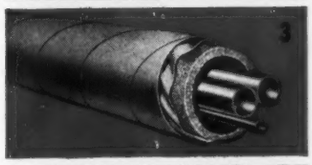

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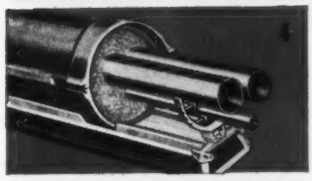

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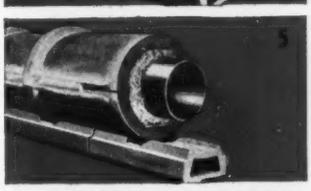

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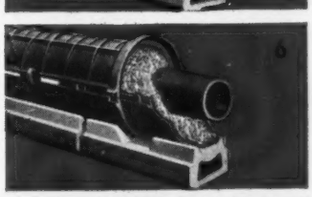

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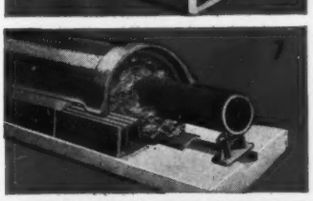
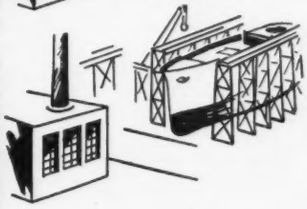
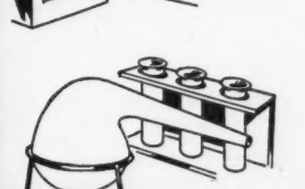



7. RIC-WIL TILE CONDUIT—UNIVERSAL TYPE

Where installation conditions dictate the use of a concrete pad Ric-WiL Universal Tile is recommended. Side walls are double-cell vitrified trapezoidal block design. Arch may be Standard Tile, Super-Tile, or Cast Iron.



8. RIC-WIL TILE CONDUIT—TYPE DA

For oil or process liquids where conduit must be insulated but individual lines are not insulated from one another. Insulation is a diatomaceous earth lining, moulded and keyed to inside of tile. May also be used (Type DF) with fibre insulation for steam heat, power and superheated steam. Applicable to Standard, Super-Tile and Cast Iron.

Ric-wiL accessories are available in all type systems; standard and special fittings, factory fabricated or field fabricated expansion devices, alignment guides, and anchors. Descriptive bulletins on request.

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ADDRESS _____

CITY _____ STATE _____

(Continued from page 98)

somewhat different in urban centers of different size. The rural farm areas have markedly specialized economy in which 78 percent of

TABLE 1

THE PATTERN OF INDUSTRY

As shown by the distribution of gainfully employed persons over 14 years of age, 1940

(Percentages of Total)

	U.S.	Rural farm	Rural non-farm	All urban (over 2,500)	All cities over 100,000	N.Y.C.	Ten largest cities—exclud. N.Y. & D.C. (1)	Ten cities of 140,000—160,000 (2)	Three cities of 100,000 (3)
Extractive	**20.8**	**79.8**	**14.3**	**2.1**	**.7**	**.2**	**.5**	**2.6**	**.8**
Agriculture	18.5	78.5	7.9	1.0					
Forestry and Fishing	.2	.2	.7	.1					
Mining	2.0	1.2	6.6	1.0					
Construction	**4.6**	**2.0**	**6.7**	**4.8**	**4.7**	**4.6**	**4.5**	**4.6**	**5.0**
Transportation and Communication	**6.9**	**1.4**	**8.5**	**8.7**	**9.0**	**8.8**	**8.7**	**8.7**	**10.0**
Manufacturing	**23.4**	**6.0**	**24.4**	**29.2**	**28.8**	**26.2**	**32.2**	**29.0**	**26.0**
Service	**42.8**	**10.0**	**45.3**	**53.5**	**55.0**	**57.5**	**52.7**	**53.4**	**57.1**
Trade	16.7	2.9	17.1	21.4	22.2	21.9	22.4	21.4	24.0
Finance	3.2	.3	2.0	4.6	5.5	7.9	5.0	4.7	4.2
Business Service	1.9	.5	2.5	2.2	2.3	2.6	2.4	2.1	2.2
Personal Service	8.9	3.0	9.2	10.8	10.4	10.4	9.4	9.7	13.5
Amusement	.9	.1	.8	1.2	1.3	1.5	1.6	1.0	1.1
Professional Service	7.3	2.5	8.7	8.6	8.2	8.7	7.7	8.7	8.5
Government	3.9	.7	5.0	4.7	5.1	4.5	4.2	5.8	3.6
Not Reported	**1.5**	**.8**	**2.0**	**1.6**	**1.7**	**2.6**	**1.4**	**1.7**	**1.1**
Total	100	100	100	100	100	100	100	100	100

NOTES: (1) Chicago, Philadelphia, Detroit, Los Angeles, Cleveland, Baltimore, St. Louis, Boston, Pittsburgh, San Francisco.
(2) New Haven, Des Moines, Flint, Salt Lake City, Springfield, Mass., Bridgeport, Norfolk, Yonkers, Tulsa, Scranton.
(3) Utica, Charlotte, N. C., Duluth.

This table shows, as of 1940, the distribution of gainfully-employed persons, over 14 years of age, in the various types of industries.

occupied persons are engaged in agriculture, 10 percent in service occupations, and small numbers in other industries. Rural non-farm population, on the other hand, engages only 14 percent of its total in all extractive industries, including agriculture. Its proportion in manufacturing (24 percent) is above the national average, as is its proportion in service industries (45 percent). Urban areas naturally have a small proportion of their population (two percent) in extractive industries, and high proportions in manufacturing (29 percent) and service industries (53 percent).[1]

If we compare the pattern of industry in cities of different sizes we note several significant differences. They all have a small proportion in extractive industries, the ten cities of 140,000 to 160,000 population having the largest (2.6 percent) mainly because of mining personnel in Tulsa and Scranton. Construction is a fairly constant percentage in all urban centers. It was high in 1940 among rural non-farm population. Transportation absorbs a fairly constant proportion of urban residents, being abnormally high in cities of 100,000 population, largely because of shipping in Duluth. While urban residents tend to specialize

(Continued on page 102)

Table of population percentages (1900-1940) of the United States showing the growth of urban population.

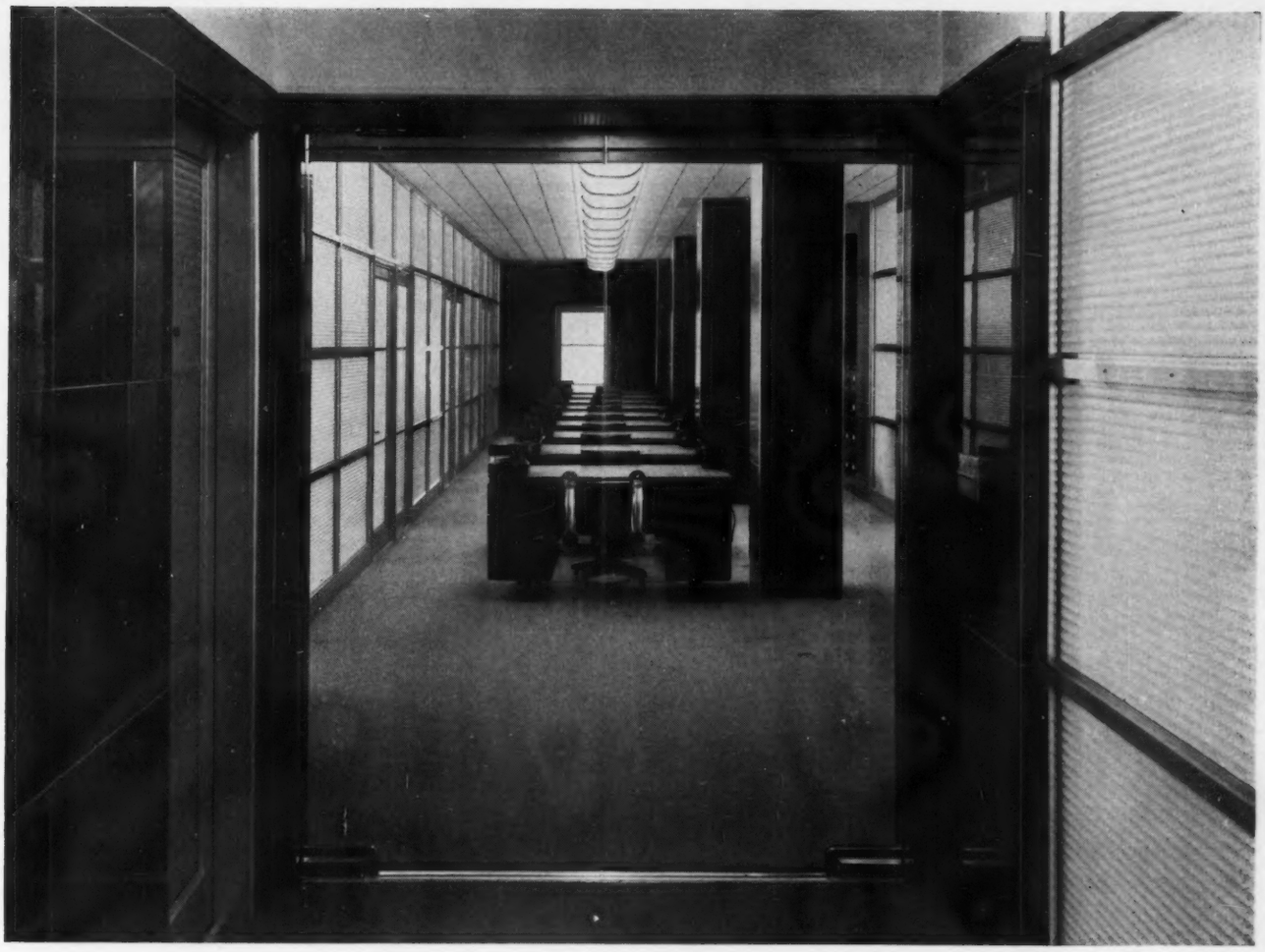
TABLE 2

GROWTH OF URBAN POPULATION

(Percentages of Total United States Population)

	1900	1910	1920	1930	1940
Rural	60	54.2	48.6	43.8	43.5
Urban	40	45.8	51.4	56.2	56.5
New York	4.5	5.2	5.3	5.7	5.7
Chicago	2.2	2.4	2.6	2.7	2.6
Philadelphia	1.7	1.7	1.7	1.6	1.5
Three largest cities	8.5	9.2	9.6	10.0	9.7
Other Urban	31.5	36.6	41.8	46.2	46.8
Three largest cities (New York, Chicago, Philadelphia)				10.0	9.7
87 other large cities over 100,000 in both 1930 and 1940				19.4	19.0
All (90) cities over 100,000				29.4	28.7
Urban areas below 100,000 in either 1930 or 1940				26.8	27.8
All urban areas				56.2	56.5
Rural				43.8	43.5
Total				100.0	100.0

[1] *These figures on gainfully employed are for persons residing in the area and engaging in these activities. The location of their work may not be within the boundaries of the area in which they reside. For instance, New York has 60.1 percent engaged in service activities. This represents the proportion of people residing in New York who were so engaged in or outside of New York City. It does not show the number engaged in the city who live outside. These data show the occupational pattern by location of residence and not by location of the industry.*



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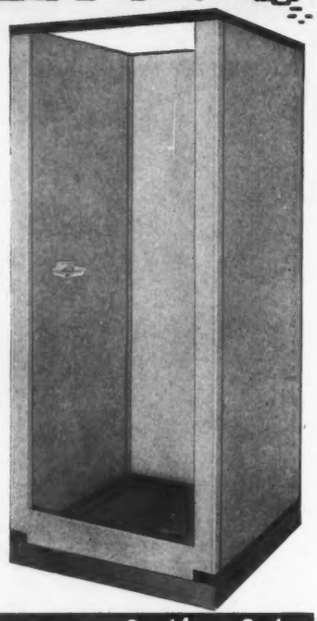

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1843 STANLEY 1943

STANLEY HARDWARE

(Continued from page 100)

in manufacturing (29 percent), the ten largest cities, excluding New York and Washington, had the largest proportion of residents in this field of endeavor. The greatest urban specialization is in service industries. Well over 50 percent of their residents are so engaged. Trade and personal service are the two largest sub-groups.

New York runs considerably behind other cities in manufacturing, but this is offset by a higher proportion of persons in service activities. New York is more heavily engaged in service than any other group of cities. It is interesting to note, however, that the three cities of 100,000 population have nearly as high a proportion in service activities. It may surprise New Yorkers that the percentage for amusement in New York is lower than for the ten largest cities, excluding New York and Washington. The proportion in government service is highest in cities of 140,000-160,000, largely because of navy workers in Norfolk. Otherwise there are no extreme peculiarities in the data.

Of special interest to planners is the fact that a very large proportion of urban residents are engaged in service activities—taking in each other's washing, so to speak. These are mainly activities which must be conducted near to the population being served. Where people congregate, such jobs do and must develop. In urban centers they furnish over 50 percent of all occupations.

The planner who wants to develop a community, or who wants to solve a community unemployment problem, should not overlook this fact. By encouraging what we may call primary employment in extractive, manufacturing, and related industries, one may increase the flow of income and support additional employment in service industries. It is not evident that efforts to increase employment in the service occupations would be equally successful in expanding or maintaining jobs. Incidentally, this policy of emphasizing primary employment is fairly characteristic of the promotional activities of chambers of commerce.

The population trends here discussed illustrate the underlying problems and conditions which must be reckoned with by large cities. Industrial shifts closely parallel the population changes to which I have referred. It is unnecessary to review in detail what is happening to the location of jobs. If manufacturing, trade, and other economic activities were analyzed they would be found to have shifted with population. These activities reveal a westward drift, a rise in many new industrial centers, a peripheral growth around established cities, and a general decentralization of industry, wholesaling, retailing, and finance. We may expect industrial planning of all types to increase in the years immediately ahead. Efforts will be made to shape industrial reconversion and future development. To direct such changes wisely and beneficially for the general welfare will require more definite and consistent economic industrial policies than we are accustomed to expect. Individual communities can, through farsighted planning, do much for their own economic improvement.

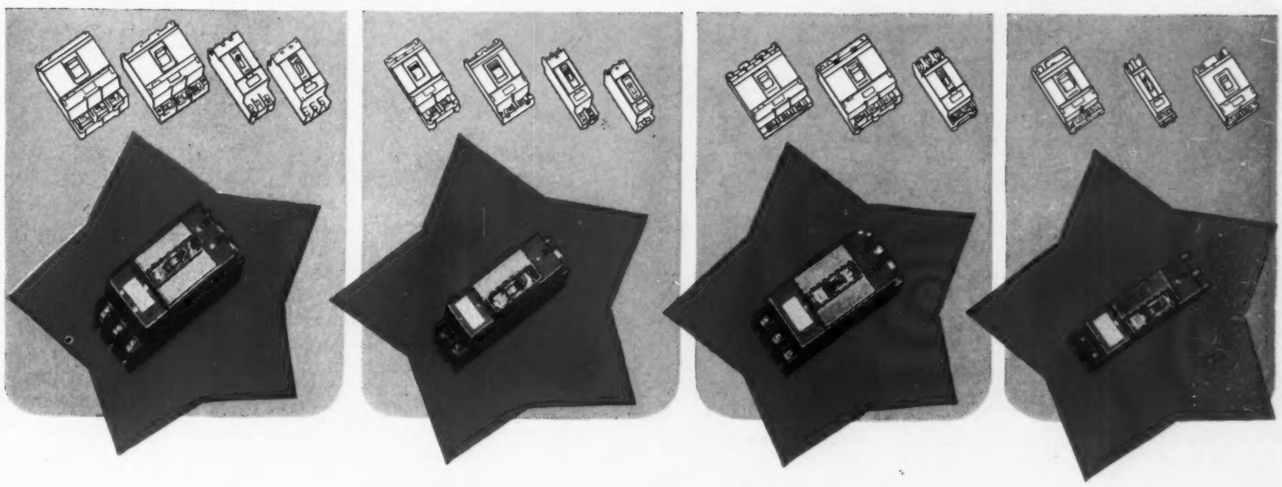
But to make these separate and often rival efforts serve the national good with a minimum of conflict and waste will require some sort of federal policy respecting industrial development. Shall we rely on regional and community rivalry to determine the outcome or shall federal policy encourage what is considered desirable regional development? Shall we encourage the movement of the unemployed to more promising areas or encourage and if necessary subsidize industry in depressed areas? Shall we promote regional diversification or regional specialization? What sort of planning assistance shall federal agencies give to states, cities, and towns? How much authority to execute plans shall be invested in public planning agencies? These and many other questions can hardly be decided now, but the future industrial pattern of the nation and the future of industrial planning will be greatly affected by the decisions reached.

(Here Dr. Calkins discussed population trends, citing many statistics and examples, most of which were covered in Discussion No. 5, which Lorin A. Thompson led on the subject, "Population Distribution." In discussing population trends, Dr. Calkins turned from the pattern of activities in large urban centers to some of the trends affecting their growth and development in which may be found further considerations to be appraised by the planner. Dr. Calkins contended that the future of the large city is less predictable than that of its smaller counterpart or town, since significant changes in the protracted trends are developing in the economic life of the large city.

Those who speak confidently of the continued growth of the large city, pointed out Dr. Calkins, usually fail to distinguish between the growth of urban population and the growth of particular cities.— The Editors.

mobilized
FOR WAR

4 breakers
TAKE THE PLACE OF 14



——TO SAVE 18% COPPER
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——TO CONSERVE SPACE
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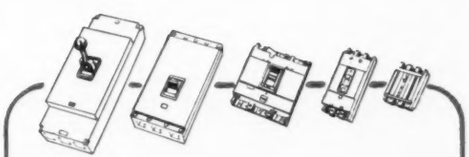

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—prevent *harmless* overloads from interrupting war production.

—protect circuits from *dangerous* overloads and "shorts."

—restore service *instantly* with just a flip of the switch.

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As a voluntary war measure, Westinghouse has "mobilized" the Nofuze line of "De-ion" Breakers. For example, all ratings from 15 to 100 amperes have been made available in one compact frame size. Instead of 14 models, 4 now serve the same purpose. Pole spacing and terminal arrangements have been made standard for interchangeability. Space is saved—vital materials are conserved.

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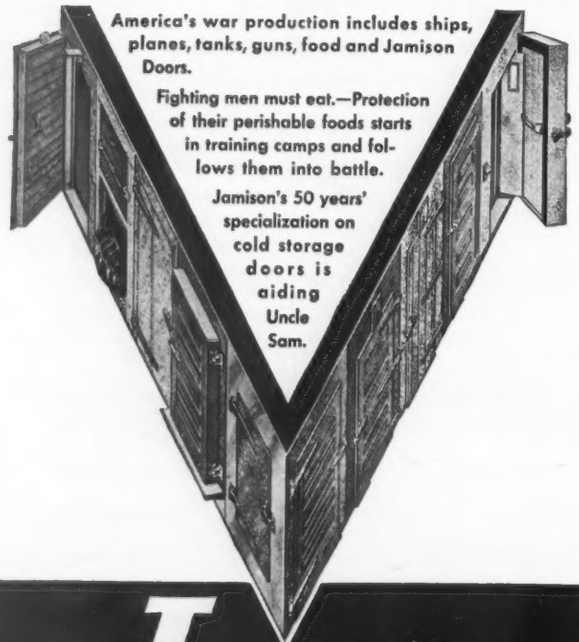
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See our Catalog in Sweet's Catalog File.

 (From page 30)

CHICAGO ADOPTS POST-WAR HOUSING POLICY

Chicago—Chicago became the first American city to plan an overall postwar housing program when its City Council recently adopted an official housing policy designed to make postwar Chicago a modern, livable community. The Chicago Plan Commission and the Chicago Housing Authority will begin work immediately on the job of "blueprinting actual step-by-step objectives."

The new housing policy includes clearance of the city's slums, rebuilding of the center of the city into tree-lined neighborhoods for families of low- and high-income groups by both public and private enterprise, protection and conservation of Chicago's middle-aged areas and of the investments of home owners in these neighborhoods, and the construction of 500,000 homes in the next generation; 35,000-40,000 homes a year are scheduled to be built during the first years following the war.

ARCHITECTURAL LEAGUE INSTALLS OFFICERS

New York—The new officers of the Architectural League of New York were installed at the annual dinner, held May 6, at the League headquarters. Officers include: president, Hugh Ferriss; vice presidents, J. Scott Williams, Eleanor M. Mellon, C. Earl Morrow, Nancy V. McClelland, and Frederick G. Frost, Jr.; secretary, J. Theodore Haneman; treasurer, H. Douglas Ives.

CORPS OF ENGINEERS SEEKS 9,000 SPECIALISTS

Washington—The Corps of Engineers has announced a special recruiting drive for the enlistment of 9,000 technicians for voluntary induction as skilled specialists to be assigned to engineer troop units. Under the plan announced, trained equipment operators who have been working as civilians on engineering and construction projects may, prior to their induction by Selective Service, volunteer for enlistment in the Engineers. The nearest Army engineer office will take their application, pass on their qualifications, and provide them with a letter to their Induction Station which will earmark them for duty with the Engineers.

There are no age restrictions under this new enlistment program. All men over 18 who qualify in any one of 75 listed technical occupations will be accepted as enlisted specialists in the Corps of Engineers. They can join any one of the three corps branches—combat engineers, aviation engineers, or special service engineers.

MANUFACTURERS DISCUSS POSTWAR PROBLEMS

Syracuse, N. Y.—Representatives of 20 leading companies met here May 6 and 7, at the invitation of Carrier Corp., to participate in a second postwar planning forum sponsored by this firm. Topics discussed included the problem of reconversion to peacetime production, postwar distribution, standardization, cooperative research among industries. In charge was John M. Bickel, chairman of Carrier's postwar planning program.

CAMOUFLEURS WANTED

Fort George Wright, Wash.—The Second Air Force is now enlisting men for instructors and technicians in camouflage work. The work requires an appreciation of color, an understanding of nature, and a good sense of design. Architects, draftsmen, scene designers, artists, commercial artists, contractor-designers, architectural and engineering students are equipped for this branch of the service.

To enlist, applicants should write directly to Capt. Walter C. Fain, Headquarters, Second Air Force, Ft. George Wright, Wash., and they will be informed of the proper procedure.

BLANFORD REPORTS HOUSING PROGRESS

Washington — Approximately 123,500 new war housing units were completed and made available for war workers during the first quarter of 1943, and 147,000 units were placed under construction, NHA Administrator John B. Blandford, Jr., announced recently. All but a minor percentage of the publicly-financed war housing started during recent months represents temporary

(Continued on page 106)

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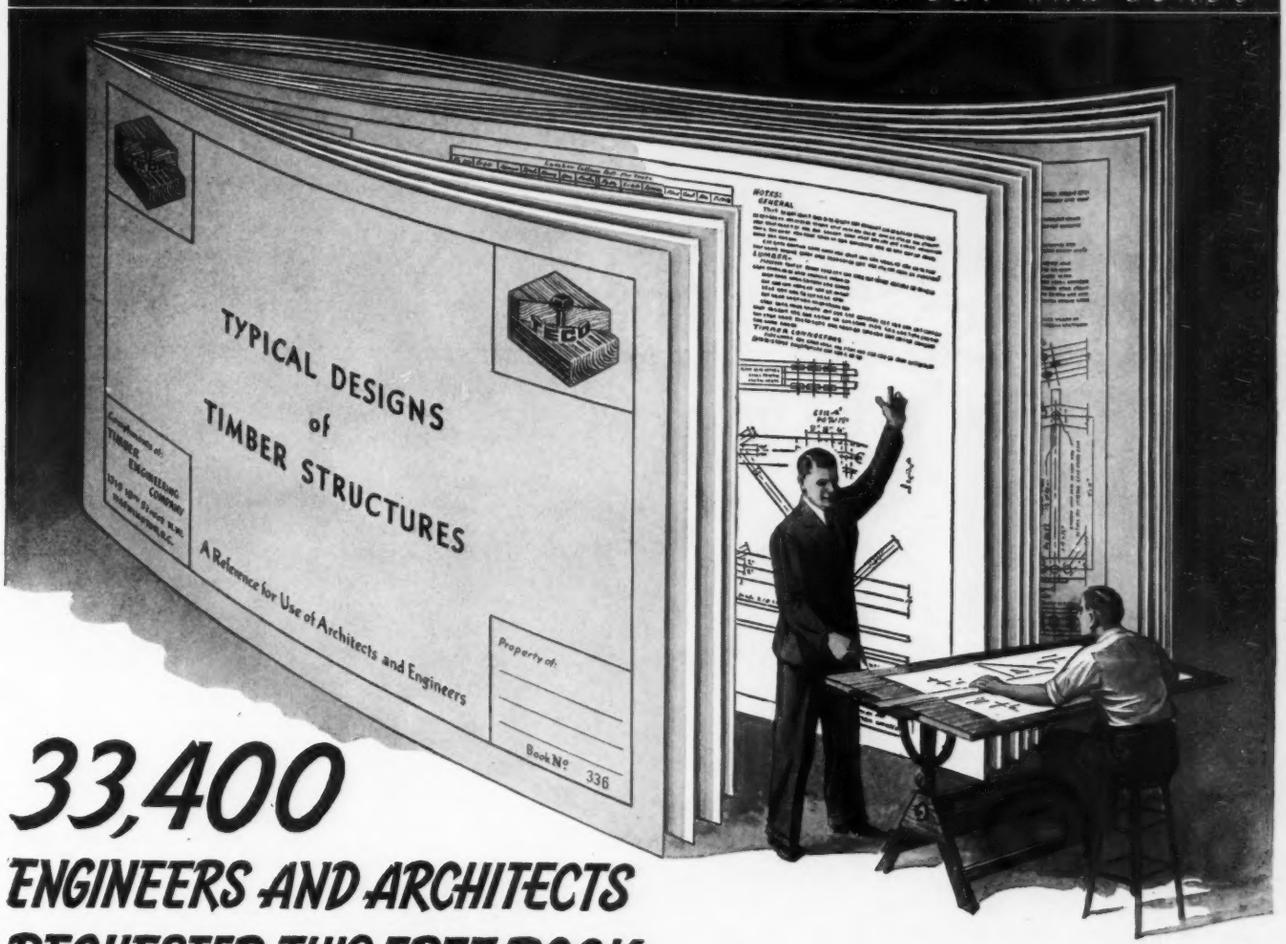

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In "Typical Designs of Timber Structures" we have assembled the design drawings of 70 representative types of timber structures that have been engineered under the TECO Connector System of construction. It abounds in suggestions for solving design problems. One prominent architect writes: "It is one of the most useful pieces of work that I have received in 20 years." A request on your professional letterhead will bring you a complimentary copy of this most valuable reference book. Write while it is available.

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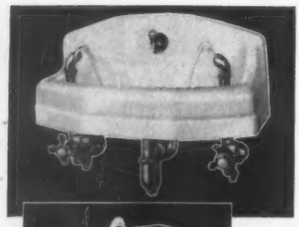

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construction, scheduled for dismantling after the war.

Publicly-financed construction put under contract during the quarter involved 120,000 units, including 90,000 family units, 21,000 dormitory units, and 9,000 trailers. Construction was completed during the quarter on 93,000 units, including 52,000 family units, 37,000 dormitory units, and 4,000 trailers.

JOBS GOING BEGGING

Los Angeles — The Southern California Chapter, A.I.A., has only 32% of its membership in private practice and expects this figure to shrink to 20% or less soon, according to Samuel E. Lunden, Chapter President.

Junior draftsmen jobs in aircraft and navy work, at $48 per week and on up to $300 a month, were on the May unfilled list according to the Southern California Chapter, A.I.A.

SHEPLEY—ACADEMICIAN

Boston—Henry R. Shepley, of Coolidge, Shepley, Bulfinch & Abbott, was elected an academician by the National Academy of Design.

MEDAL TO BASSETT

New York—Edward M. Bassett, frequently called the "father of zoning" in America, was recently given the Medal of Honor for City Planning, the joint award of the A.I.A. Brooklyn and New York chapters, A.S.C.E. metropolitan section, and the A.S.L.A. New York chapter. The award recognizes and honors distinguished contributions to the planning of the city of New York.

POSTWAR HOME DEMAND SEEN TO BE HUGE

Washington—A consumer survey made by the United States Chamber of Commerce reveals significant trends for postwar home building. The report shows that approximately 900,000 families intend to build or buy a new house immediately after the war. Of these, 33 percent would pay $3,000; 26 percent would pay $3,000-$5,000; 24 percent would pay $5,000-$10,000; 8 percent would pay more than $10,000. The rest are uncertain as to the price they would pay.

The survey also discloses that about $5 billion would be spent for new homes.

M.I.T. SCHEDULES PLANNING CONFERENCES

Cambridge, Mass.—Massachusetts Institute of Technology has announced that a two week Conference on City and Regional Planning will be held at the Institute from September 7 to 18, 1943. The conference, sponsored jointly by MIT and the American Society of Planning Officials, will be open to men and women who have had practical experience in planning or in a related professional field, including planning technicians, members of state or municipal planning commissions and housing authorities, and staff members of engineering or public works departments.

Seminars will be held each morning and afternoon, beginning Tuesday, September 7, and will cover such subjects as planning and zoning legislation, subdivision control, traffic and transportation, housing, recreation, comprehensive plans for cities and regions, and urban redevelopment. Emphasis will be placed on technical and administrative procedures and the application of approved planning standards rather than on a generalized discussion of the various planning problems for which solutions are needed.

The seminars will be conducted by Professors Frederick J. Adams and Flavel Shurtleff, assisted by visiting lecturers on special topics.

The fee for the two weeks' conference is $50. Applications should be sent to Professor Frederick J. Adams, Massachusetts Institute of Technology, Cambridge, Massachusetts, not later than August 31, 1943.

RESTRICTIONS STAY

Washington—In delegating to its regional offices the power to authorize the beginning of certain types of construction costing less than $10,000, the WPB did not ease, in any respect, the restrictions which had existed previously in regard to construction of this kind. (See NEW PENCIL POINTS, page 23, March.) The order, which became effective March 8, was strictly one of decentralization and in no way implied any relaxation of wartime construction restrictions.

WPB officials said the decentralization order has been widely misinterpreted; that it was issued to simplify construction procedures.

Take care of your FORMICA *for the Duration!*

IT'S hard to get now! But the table tops and counters you have will remain beautiful and attractive until the war is over if you see that they are properly cared for.

Clean the top with a damp cloth and wipe it dry. Naphtha, benzol or alcohol can be used for removing any spots which cannot be removed with soap and water.

Don't scrub the top with gritty or abrasive cleaning powders.

An occasional waxing with either liquid or paste wax will protect the surface and assist you in maintaining the original finish of the top throughout the years.

Do not place hot vessels directly from the stove or heating unit on the top. Do not use electric toasters, grills or other devices with electrical heating elements directly on the top without a protective pad beneath it.

ARMY E NAVY

Formica has received the Army-Navy "E" Award for Excellence in production.

FORMICA

THE FORMICA INSULATION CO., 4621 SPRING GROVE AVE., CINCINNATI, O.

Manufacturers' Literature

Publications mentioned here are all 8½ x 11″ unless otherwise specified and will be sent free of charge, upon request. When writing for any of the literature noted here, please mention The New Pencil Points.

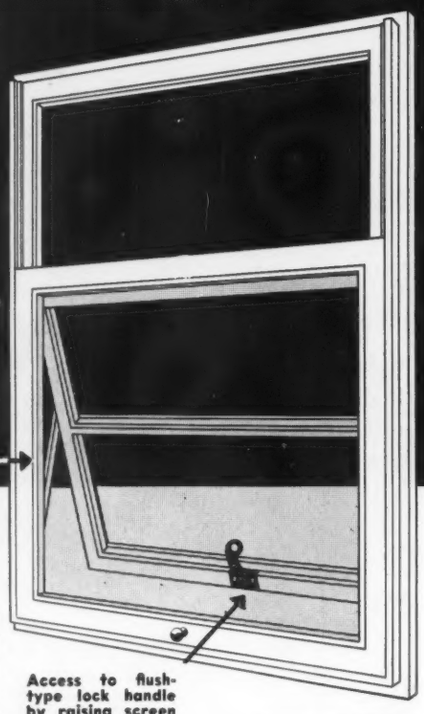
Synthetic Rubber

A 42-page catalog, "Five Commercial Types of Synthetic Rubber," compiled primarily for sales engineers of its organization, was issued recently by United States Rubber Co., 1230 Sixth Ave., New York 20, N. Y. The booklet traces the development of synthetic rubber from its laboratory beginnings, describes the properties of the commercial synthetic rubbers, and relates briefly the part played by the firm in their development, manufacture, and use in its products. The publication includes photographs of synthetic rubber manufacture, many diagrams, and a chart compiled from the experience of plants and laboratories of the firm giving the relative physical and chemical properties of natural rubber and of the five types of synthetic rubber.

Now available with

SCREEN and STORM SASH

Screen and storm sash are interchangeable; snap in place; held by spring tension.

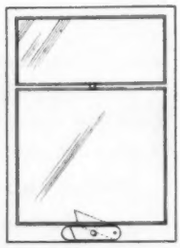


Access to flush-type lock handle by raising screen or through storm sash ventilator.

FOR STANDARD 2 x 4 FRAME, THIN WALL OR MASONRY CONSTRUCTION

Units are completely assembled. No fitting is necessary on the job. Sash and frame are of white pine, toxic-treated with water repellent "Woodlife." Windows are set right in studding, requiring no frames, sash weights or balances. Flush-type lock handle is an exclusive design feature. Standard sizes: 2 to 4 lights wide by 2 to 4 lights high. (1′-11½″ to 3′-3½″ wide by 2′-5⅞″ to 4′-7⅞″ high.) Units can be glazed with standard size lights. The Pella Awning Window complies with Federal Housing Authority Specifications. Sizes readapted to your specifications if quantities warrant.

Rush your request for FREE, full size details to the Rolscreen Company, Dept. 163, Pella, Iowa



Inside storm sash easily removed for extra ventilation and window washing.

Pella

AWNING-TYPE WINDOWS

Made by makers of Pella Rolscreens, Venetian Blinds, Casement Units

Switchboards

Sixteen-page Bulletin 3100, from Square D Co., Switch & Panel Division, 6060 Rivard St., Detroit, Mich., describes and lists marine switchboards, generator boards, power and light distribution panelboards, and drip-proof switches for marine use. The equipment shown meets government requirements.

Lockers

How to provide ample and adequate locker facilities is pointed out in a 4-page folder, Bulletin 920, issued by Sanymetal Products Co., 1701 Urbana Road, Cleveland, Ohio. The folder gives construction details and suggested installations and layouts for the firm's new pressed hard fiberboard locker compartments, and lists the four different types with illustrations and dimensions of each.

Welding

As a helpful step in instructing users of the oxy-acetylene welding and cutting process how to prolong the life of their equipment, the International Acetylene Association, 30 E. 42nd St., New York 17, N. Y., has issued a convenient, 20-page, pocket-size (3⅜″x5½″) booklet, "Handbook for the Welding and Cutting Operator." Written in an easy-to-understand style, it contains a list of concise do's and don't's and information on the care and maintenance of blowpipes, regulators, welding and cutting accessories.

Wood Preservative

The widespread necessity for wood preservation, and what to do about it, is contained in an 8-page illustrated brochure, "Laucks Wood Preservatives," available from I. F. Laucks, Inc., Seattle, Wash. The booklet describes methods of treatments for protecting wood from moisture and fungi decay, and has a chart showing methods of application and need for different types of preservatives, including water-repellent, toxic, and toxic-repellent solutions.

Propeller Fans

Four new types of Autovent fans—standard direct drive, high-powered direct drive, and standard and high-powered belt drive fans—for ventilating public, industrial, and commercial buildings are illustrated and described in a new 16-page catalog issued by The Herman Nelson Corp., Moline, Ill. Dimension and performance tables are included. The new designs feature a non-metallic panel which is said to contribute to quieter operation, easier installation, and longer service life.

Farm Buildings

All types of farm structures — brooder houses, farrowing houses, self-feeders, range shelters, etc.—are illustrated in a book issued by Southern Pine Association, Canal Building, New Orleans, La. There are 48 structures shown, each accompanied by detailed plans and a complete list of material.

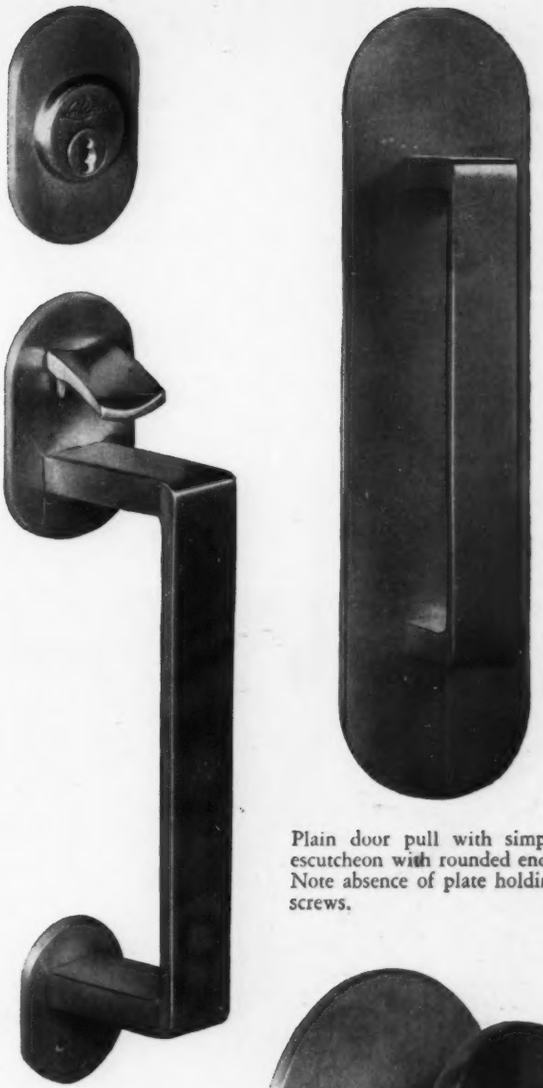
(Continued on page 110)

LOCKWOOD HARDWARE *says "Welcome" at Washington's Hotel Statler*

BESPEAKING the rich simplicity and dignity of this modern hotel, the hardware is finished in natural dull bronze, wet scoured and "permanized."

Shown at right are the main entrance and shop door set with Lockwood Cylinder Lock and thumb latch; the plain handle set; and the substantial large knob used on first and second floors. *Note the absence of screws in the escutcheons.* Holabird & Root, the architects, created the simple dignified hardware designs, which Lockwood Engineers produced with many ingenious hidden holding devices.

Lockwood Builders' Hardware is engineered to fulfill *every* requirement—from design to durable security. Available now only for direct war work, you will still find us ready to plan with you for the day when Victory is assured.



Plain door pull with simple escutcheon with rounded ends. Note absence of plate holding screws.

Entrance Thumb Latch Set with Lockwood Cylinder Lock and off-set hand pull, used on main entrance and shop doors.

Rich, over-size round knob and round escutcheon, used on heavy doors on first and second floors. Note the absence of plate holding screws.

JOHN W. HARRIS, INC.
NEW YORK CITY
General Contractors

HOLABIRD & ROOT
CHICAGO AND NEW YORK
Architects

Lockwood Hardware Mfg. Co.

Division of Independent Lock Co. **Fitchburg, Massachusetts**

(Continued from page 108)

Concrete

The Vacuum Concrete process for removing excess mixing water from concrete after it is placed in the forms is illustrated and described in three 4-page folders issued recently by Vacuum Concrete, Inc., 4210 Sansom St., Philadelphia. By using the process, floor slabs may be troweled as soon as the suction mats are removed; wall forms, it is said, may safely be stripped within an hour. Only vacuum suction and its accompanying atmospheric pressure are used; there are no driers, admixtures, or special cements used.

War Agencies

"Handbook of Emergency War Agencies," 143-page guide to Federal agencies all of whose present functions are devoted to the war activities. The handbook includes organizational outlines and names and addresses of officials of emergency war agencies, the War and Navy departments, and the United States Maritime Commission. Statements with reference to creation, authority, and general background have been omitted inasmuch as that material is contained in the *United States Government Manual* published by the Office of War Information. From Superintendent of Documents, Washington, D. C., 20 cents, paper cover.

Protect your buildings with the NEW Richmond Fyrgard Door

Carelessness today is sabotage. Take no chances with spreading fires. Protect all interior areaways with the NEW Richmond Fyrgard Doors.

Designed to meet the strictest Underwriter and Building Code Laws, the core of these doors is 3-ply white pine, tongue and grooved, and covered with No. 24 gauge galvanized steel with vertical cap seams of No. 22 gauge steel. The flush galvanized sheets of the NEW Fyrgard Door not only provide a better appearance by eliminating all horizontal seams, but the heavier metal provides a more durable surface, compared to the 30 gauge terne plate on tinclad doors.

The NEW Richmond Fyrgard Doors fit any specifications. Automatic closing single and double swing doors as well as inclined and level track automatic sliding Fyrgard Doors are available. All are built to the same high standard of quality and protection.

Assure all buildings of maximum safety against spreading fires with the NEW Richmond Fyrgard Door. Write today for further details and specifications or see our catalog in Sweet's.

The Richmond FIREFROOF DOOR COMPANY
(Affiliated with the Peelle Company, Brooklyn, N. Y.)
RICHMOND, INDIANA

Prefabrication

"The Story of Prefab Housing," a 24-page booklet, 10⅜" x 8⅜", issued by The Upson Co., Lockport, N. Y., graphically portrays, step by step, one of the several ways in which the firm's Strong-Bilt panels are being used in prefabricated housing. Panels are made in 8′ widths and room length, making unnecessary the use of batten strips or taping of joints. Also available in 4′ widths and various standard lengths.

Unit Heaters

Two new specifications sheets describing Carrier unit heaters have just been published by Carrier Corp., Syracuse N. Y. The two-page circulars illustrate and describe Carrier's five-way vertical discharge unit heater (Type 46S) and the company's horizontal discharge unit heater (Type 46E).

Ventilators

Four-page folder from G. C. Breidert Co., 634 S. Spring St., Los Angeles, Calif., describes the Air-X-Hauster, a new type ventilator for use on residences, commercial and industrial buildings. The unit has no moving parts, is said to prevent down drafts. All of the types shown may be equipped with exhaust fans where unusually large volumes of air are to be moved.

Asbestos

"The Asbestos Factbook," 16 pages, 4⅞" x 7½", contains information as to origin, locations, uses, analyses, qualities, and other facts about asbestos. Available at 10 cents a copy from "Asbestos," 16th Floor, Inquirer Building, Philadelphia.

Conduit

12-page catalog on asbestos-cement conduits with Flexcaulk couplings. Installation procedure, construction sections, specifications included. Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio.

Roofing

A new kind of roofing booklet, designed to present asphalt shingles in glamorous settings similar to movie and stage techniques, has been published by The Celotex Co., 120 S. LaSalle St., Chicago. The booklet stresses the wide variety of colors, textures, and styles of shingles in the Celotex line.

Ventilator

Swarthout Co., 18511 Euclid Ave., Cleveland, has issued Bulletin 217 describing the NCM line of roof ventilators made of non-critical material. The various designs are patterned after the original metal Swarthout ventilators.

Panelboards

Square D Co., 6060 Rivard St., Detroit, Mich., has revised its Bulletin 2500 covering Saflex power distribution panelboards. The panelboards are designed to meet rigid requirements of wartime industry for such equipment employing interchangeable units. (A.I.A. File No. 31-D-3, 12 pages.)

(Continued on page 112)

UNDER THE NATION'S ROOF

June, 1943

No shortage of asbestos-cement building materials. Asbestos shingles, asbestos roofing felts, corrugated Eternit sheets, Stonewall Board ... all non-critical and available.

Architects and plant executives who wish to eliminate or reduce the unsightliness of factory exteriors at no extra cost should investigate Ruberoid's new developments in saw-tooth and other steep roof areas. These are mineralized materials providing soft green and striking red colors.

Sheet metal curtailment order has not upset flashings details. There are five sensible, practical methods all ready to be incorporated into your specifications. They are available from The Ruberoid Co.

About reducing air-cooling loads. Economies up to 20% can be effected, where proper roof specifications exist, by keeping several inches of water on the roof all summer. But, don't try it without checking up first on the specifications.

Laminated wood arch construction is doing an outstanding job replacing steel trusses for large area structures such as hangars, garages, warehouses, supply depots, etc. The roofing problem on these Curved Truss Roof Decks becomes no problem at all when you specify Ruberoid Double-Coverage (wide selvage) Roofing. Available with red, green or blue-black mineral surfacing – it provides a built-up roof especially suited to curved roof construction.

The latest Ruberoid Roofing Specification Book should be in every architect's file. Contains complete specifications and details on all types of Built-Up Roofing – (a) Asphalt (b) Coal Tar Pitch (c) Asbestos. It's right up to the minute. Ask for A.I.A. File 12-B-1.

War-time construction didn't start with Pearl Harbor. Defense construction had been under way for several years. Wide experience with hangars, hutments, housing, warehouses, war plants – all involving new problems, have created at Ruberoid a vast reservoir of case-history information ... which is available for the asking.

The RUBEROID Co.

For up-to-the-minute information on your roofing and building problems consult our nearest sales office:

NEW YORK—500 Fifth Ave. • CHICAGO—307 North Michigan Ave. • BALTIMORE • ERIE • MILLIS (Boston) • MINNEAPOLIS • MOBILE

(Continued from page 110)

Oil Heating

How to determine the steps that should be taken to replace the gallons of fuel oil lost by rationing is explained with formulae and charts in an easy-to-understand, timely paper prepared by G. D. Lortz, of the National Mineral Wool Association. The 4-page leaflet may be had from The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio.

Pipe Units

How pre-sealed insulated pipe units for underground steam lines are factory prefabricated is described in a 6-page folder (Bulletin 4208) from The RicwiL Co., Cleveland, Ohio. Also available is Bulletin 4223, 8 pages, which discusses the prefabricated insulated pipe units which are available with welded connections for use in underground and outside overhead steam, fuel oil, and hot water piping.

Wood Sash

4-page folder on projected wood sash contains four 18″ x 24″ sheets with full-size sill, jamb, and head details of the sash installation in frame, masonry, and poured concrete construction. One sheet contains full-size details of the new awning-type window. This unit is similar in design and operation to that of the firm's projected sash except that muntin bars are lighter, and units are made to sizes which make it possible to use the same size glass as is commonly used in double-hung windows. Rolscreen Co., Pella, Iowa.

Lighting

Booklet 2130 from Curtis Lighting, Inc., 6135 W. 65th St., Chicago, presents types of products which find most frequent use in industrial plants producing war goods. Included are data on fluorescent industrial lighting units, and units for the industrial office and drafting room.

Centrifugal Pumps

Manual B6256, "Handbook for Wartime Care of Centrifugal Pumps," from Allis-Chalmers Mfg. Co., Milwaukee, Wisc., is a 28-page, 5″ x 7″ manual which describes in easy-to-understand, non-technical language, the how and why of pump construction and how it affects pump maintenance. The information contained in the manual is applicable to all makes of pumps.

Kitchen Planning

An attractive, new kitchen planning book is available from Curtis Companies, Inc., Clinton, Iowa. The book, 8⅜″ x 11″, is well illustrated with views of modern kitchens. Intended primarily as a "duration book" to aid dealers sell Curtis wood kitchen cabinets, the book pictures kitchens of various basic types and explains the planning steps for acquiring a kitchen.

Lignum-Vitae

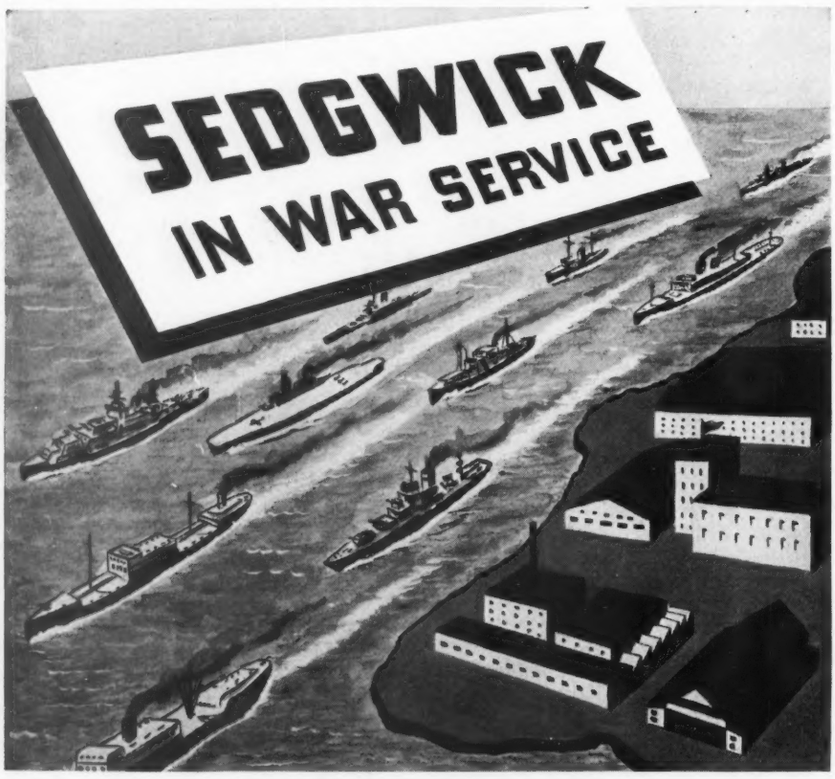
Sixteen page booklet, from Lignum-Vitae Products Corp., 96 Boyd Ave., Jersey City, N. J., presents a wartime report for production and engineering executives on a material that is being substituted for critical metals and plastics in mechanical and diversified industrial applications. It includes details about many applications used before the war, and potential uses for Lignum-Vitae in the postwar period. Lignum-Vitae is a natural, self-lubricating, hard, and resinous tropical wood.

Construction Glues

Vol. II, No. 2, of "Construction Glues," published by I. F. Laucks, Inc., 911 Western Ave., Seattle, Wash., 4 pages. Important articles in this house organ include a technical discussion on increasing production by using heating methods, a section on new wood products being manufactured with Laucks' glues, and a discussion on a glue-laminated roof structure built for U. S. Army aircraft.

American Standards

The American Standards Association, 29 W. 39th St., New York, has available a new list of American Standards. More than 600 standards are listed by subjects which reach into every important engineering field. A special section is devoted to American War Standards—standards developed specifically for war production needs. Another section is devoted to American Safety Standards.



Giving a Lift to the War

Getting ammunition to the gun crew on an upper deck, raising and lowering large airplanes between decks on aircraft carriers, moving supplies and heavy equipment in buildings in military establishments and shipyards — Sedgwick equipment is doing all these things quickly, safely and dependably. For War's changing problems as related to load transfer between different levels are being capably met by a Sedgwick engineering staff which has a half century of specialized experience to draw upon. And Sedgwick plants, modernly tooled, are standing by to convert blue prints into finished equipment which has a performance record second to none.

When it's a lifting problem — think of Sedgwick

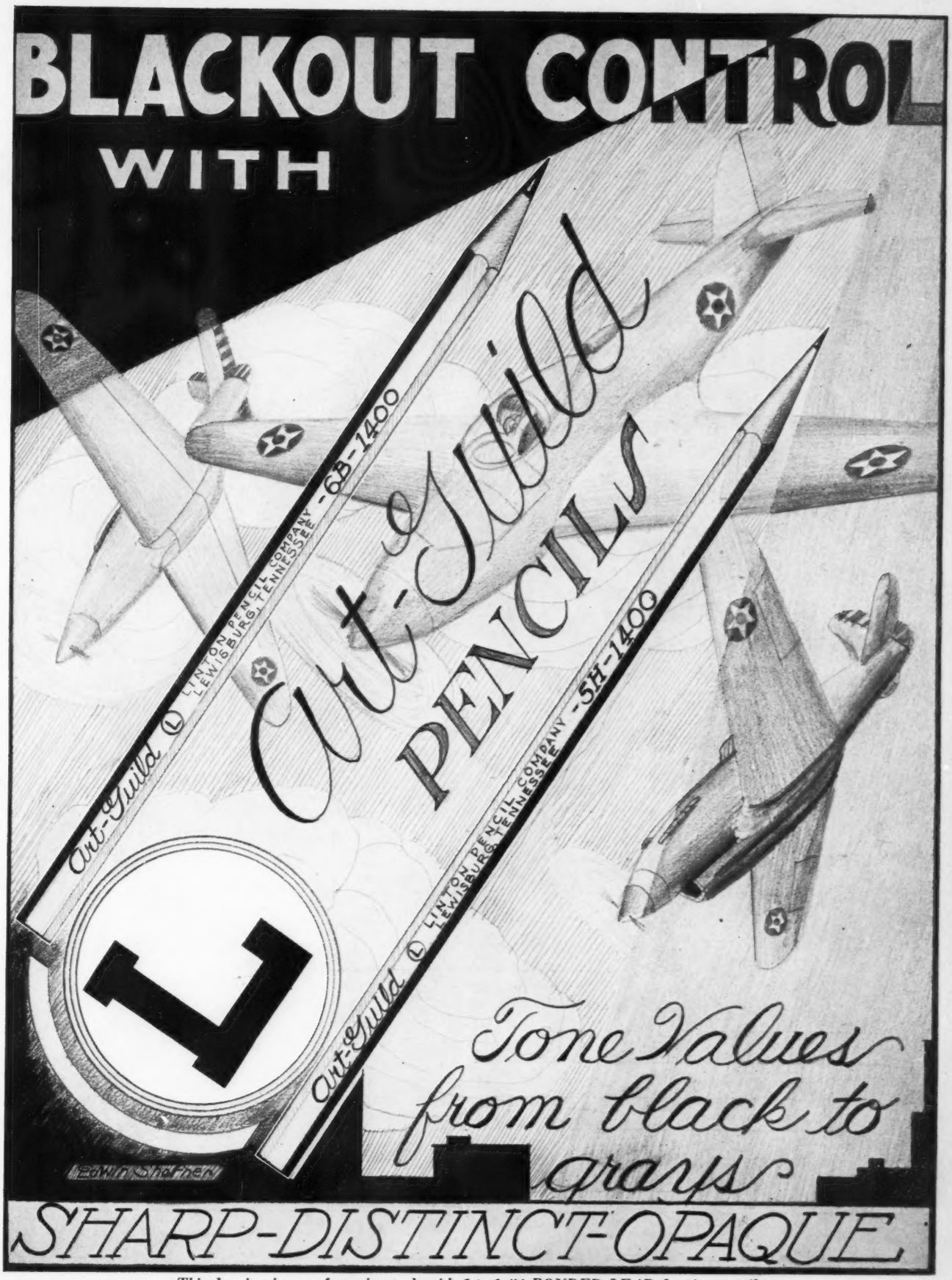
SEDGWICK MACHINE WORKS

ESTABLISHED 1893

164 West 15th Street New York, N. Y.

MEMBER OF PRODUCERS COUNCIL, INC.

ELEVATORS ★ HOISTS ★ DUMB WAITERS



This drawing is one of a series made with Art-Guild BONDED LEAD drawing pencils

Art Guild pencils are available in 17 precision-milled degrees — 6B to 9H. Beautifully finished in green lacquer, they come neatly packed in a metal box.

Try them at our expense. We will gladly send you a few Art Guild pencils for personal test. Just drop us a note on your letterhead, specifying the degrees you prefer.

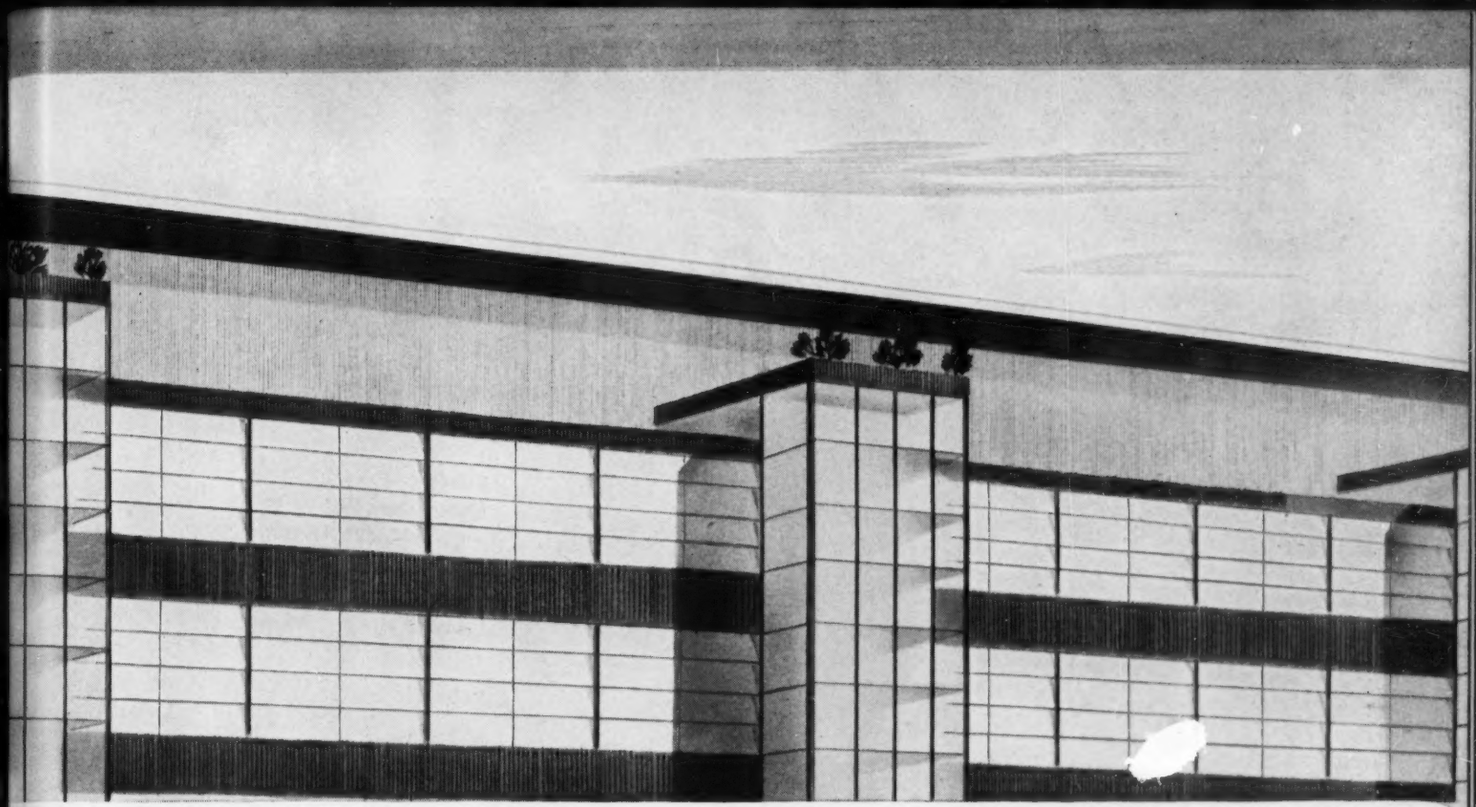
LINTON PENCIL CO., Lewisburg, Tenn.

SALES OFFICES

112 West Ninth Street
Los Angeles, California

38 South Dearborn Street
Chicago, Illinois

3525 Southwestern Boulevard
Dallas, Texas



HOW FENESTRA PLANS TO SERVE YOU BETTER, TOMORROW

In the postwar years to come, America's architects, engineers, contractors and builders will have their greatest opportunities in all history, and their greatest responsibilities.

While, today, "Victory is Fenestra's Business", various postwar planning committees are preparing improved and new Fenestra building materials, to help you meet tomorrow's heavier responsibilities... Fenestra's promises of future accomplishments may be judged in the light of some of Fenestra's past performances.

SOME FENESTRA FIRSTS

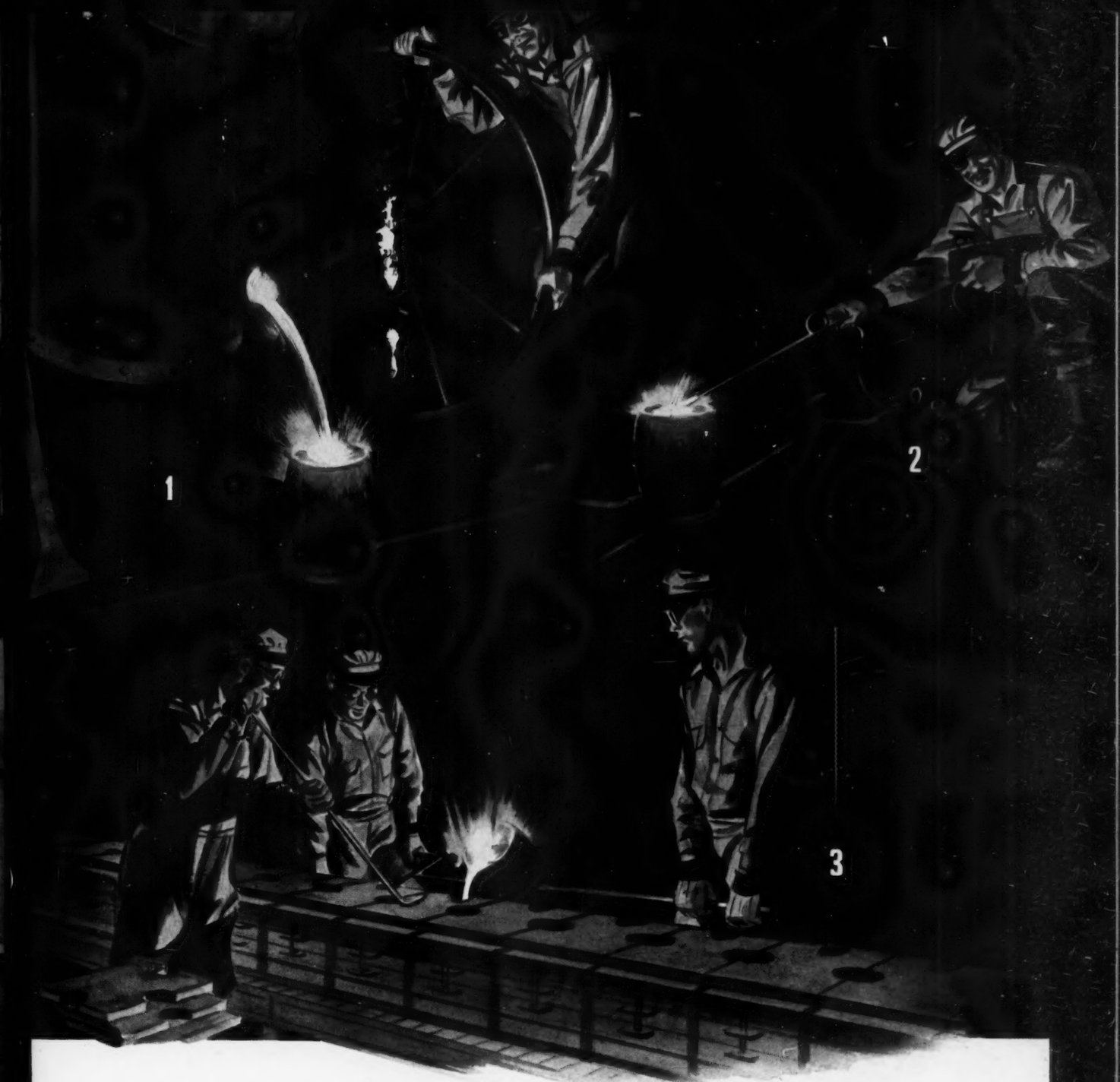
Fenestra was the first to manufacture steel windows in America. Fenestra-Holorib was America's first insulated steel roof deck. The first steel residence casements with integral inside screens were introduced by Fenestra. Fenestra spent hundreds of thousands of dollars to pioneer the famous engineering research work which led to greatly improved industrial daylighting and natural airation. To protect against rust, Fenestra introduced the Bonderized Finish to the steel window industry. The Fenestra Package Window was the first steel-and-wood casement unit delivered to the job complete, ready to nail in the opening. And so on.

DETROIT STEEL PRODUCTS COMPANY
Now Engaged Exclusively in War Goods Manufacture
Dept. PP-6, 2269 East Grand Boulevard, Detroit, Mich.
Pacific Coast Plant at Oakland, California

Fenestra POSTWAR PRODUCTS

WILL COMPLETELY ENCLOSE YOUR BUILDINGS
WINDOWS · DOORS · ROOF AND FLOOR DECKS · METAL SIDING

A Built In.
ONLY THE RICH CAN AFFORD POOR WINDOWS



precision · · · from furnace to mould · · · · ·

★ Men of many years experience and "KNOW HOW" plus laboratory control through every phase of our foundry work—correct metal mixtures and strict regulation of pouring temperatures, are some of the reasons for the consistently high quality and uniformity of STREAMLINE Fittings. PRECISION STARTS WITH THE CORE AND ON FROM FURNACE TO MOLD AND MACHINE SHOP.

STREAMLINE Fittings and Copper Pipe are now in the service of our country for many purposes. They are installed in naval vessels of practically all types, including victory ships, subchasers, submarines, mine sweepers, etc. A tremendous amount of Copper Tubing, which in peace years provided peak performance in many of the best plumbing and heating systems in America, is now installed in the great majority of Tanks built in the United States and Canada.

When peace returns to the world, the plumbers and steamfitters of America will again install STREAMLINE Fittings and Copper Pipe to protect the health of the nation as they are now helping to protect the lives of our men in our armed forces.

1. Pouring the Metal.
2. Pyrometer reading for measuring temperature.
3. Pouring the moulds.

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

An Architect Re-states

some of the normal-era fundamental advantages of

OIL BURNING SYSTEMS

George G. Miller, a well-known New York architect, is an authority on housing with a long list of fine apartment houses to his credit, among which is a large housing development for 200 families now being planned in Bridgeport, Conn., also one of the largest apartment houses in the Bronx located at University Avenue and Kingsbridge Road.

He has been a consistent user of Petro Systems and among the outstanding modern apartment houses for which he has specified Petro are those located at 50 East 191st Street, Bronx; 311 East 55th Street, New York; and Queens Boulevard and 76th Road, Queens. Based on long experience, Mr. Miller finds that,

"Petro provides the clean, quiet, efficient oil heating system which is required by those who live in apartment houses. Owners find, too, that overhead is cut down because a janitor is not needed to check an oil burner, and in these days of janitor shortage this is extremely important.

"For the duration we are compelled to look to postwar apartment building when Petro Systems again will be logical equipment to use."

Practically all recent work and discussion in all industries has been dominated by war conditions and concerned chiefly with war operations.

Petro Oil Burning systems successful meeting of overloads and other handicaps of war production has had frequent comment and commendation.

Mr. Miller's remarks, above, serve to re-focus attention on the basis for this good war record. It is the excellent design, manufacture and application of Petro to normal-time uses which made possible the plus-values Petro Systems have delivered in war-time.

And when normal construction and modernization is again possible, the demand for reliably efficient oil burning systems will be generously met by Petro equipment.

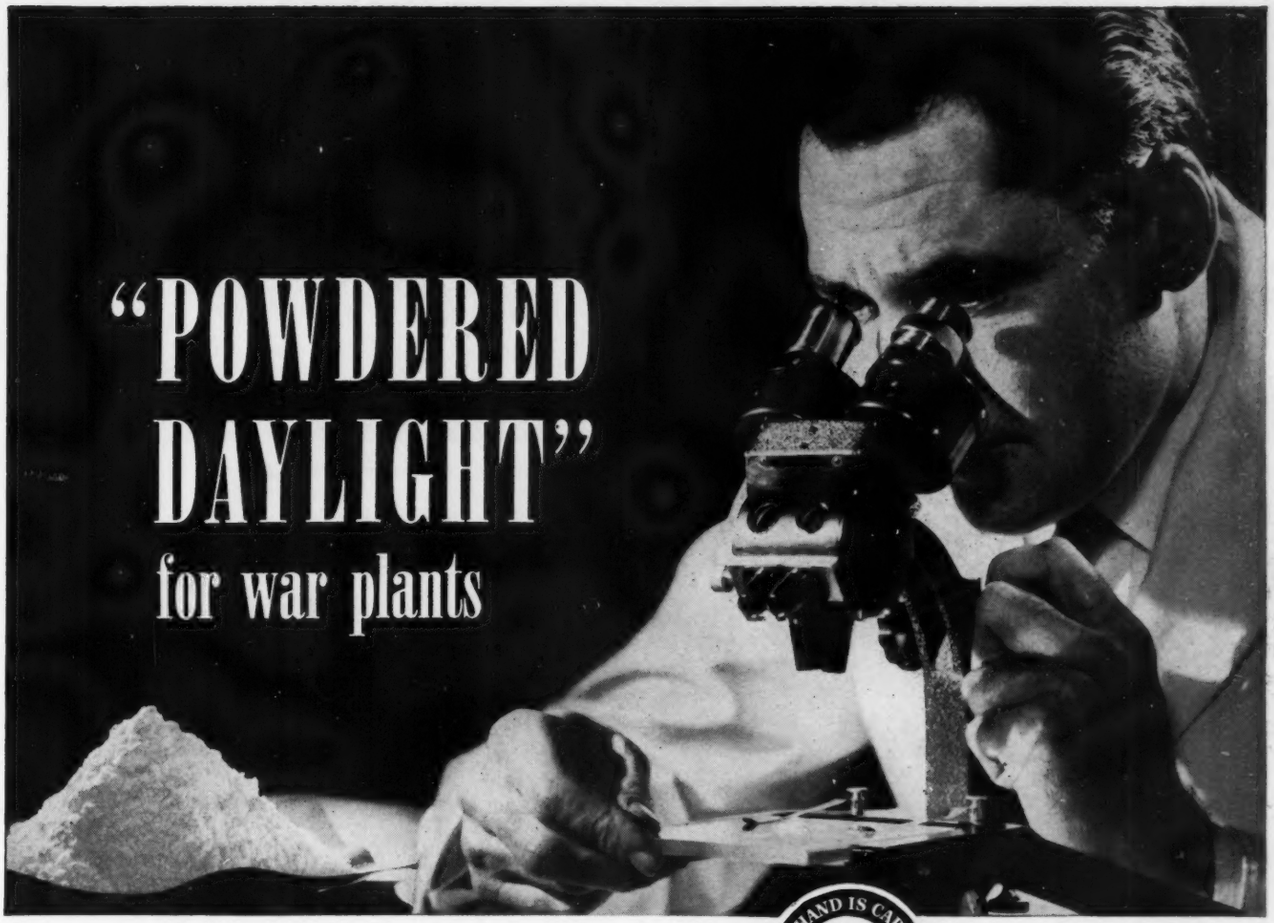
OIL IS AMMUNITION
USE IT WISELY

Full data on Petro Industrial Burners are in Sweet's—or Domestic Engineering—catalog files, or we will gladly send copies on request.

PETRO
Cuts Steam Costs

PETROLEUM HEAT AND POWER COMPANY

STAMFORD ***—Makers of good Oil Burning Equipment since 1903—*** **CONNECTICUT**



"POWDERED DAYLIGHT" for war plants

● A vital chemical of war is "powdered daylight" – fluorescent powder that makes cool, glare-free, shadowless light to speed production in plants throughout America.

Complex compounds called phosphors are pulverized, refined and milled to the fineness of face powder. Precisely blended and mixed with binders to assure even coating, tiny phosphor particles are *fixed* inside the glass tube by high-temperature baking. There, in very low-pressure argon gas and mercury vapor, the "Black Light" magic of ultra-violet rays transforms phosphor energy into visible light more constant than daylight – and just as kind to the human eye.

THE HAND IS CAPTIVE TO THE EYE

More than ten years of independent research have made coatings with smoother textures a unique feature of Sylvania Fluorescent Lamps. They have also brought other points of Sylvania Lamp superiority: uniform colors, higher light output and longer life – at progressively lower costs.*

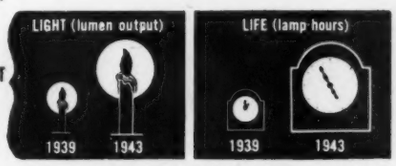
Improvements take place every week at Sylvania. Many of them, like the "Mercury Bomb," conserve strategic materials and labor, and at the same time improve quality. All of them serve fluorescent progress, which is aggressively aimed to bring better lighting to industry, commerce and the home when Victory is won.

While today's Sylvania Fluorescent Lamps are serving three-shift days in America's war plants, tomorrow's are being made even better. Specify Sylvania Fluorescent Lamps for replacement and be assured of all the improvements offered by constant research.

FAR MORE LIGHT AND LIFE FOR YOUR MONEY

*Compared with 1939 a dollar invested today in Sylvania Fluorescent Lamps buys more than four times the lumen output and approximately five times the lamp life.

SYLVANIA FLUORESCENT DOLLAR BUYS:



(Based on decreasing price and increasing efficiency and durability of Sylvania 40-Watt White Fluorescent Lamp)

Even on existing circuits, a change-over to fluorescent—Sylvania Lamps, Fixtures and Accessories—will probably more than double the light you get for the same wattage.

SYLVANIA

ELECTRIC PRODUCTS INC.

formerly Hygrade Sylvania Corporation
Salem, Mass.

Incandescent Lamps, Fluorescent Lamps, Fixtures and Accessories, Radio Tubes, Electronic Devices.

When the Time Comes . . .
EXPECT THIS FROM US

Speed in switching to full-out peace may be even more vital than the time it took to change to war.

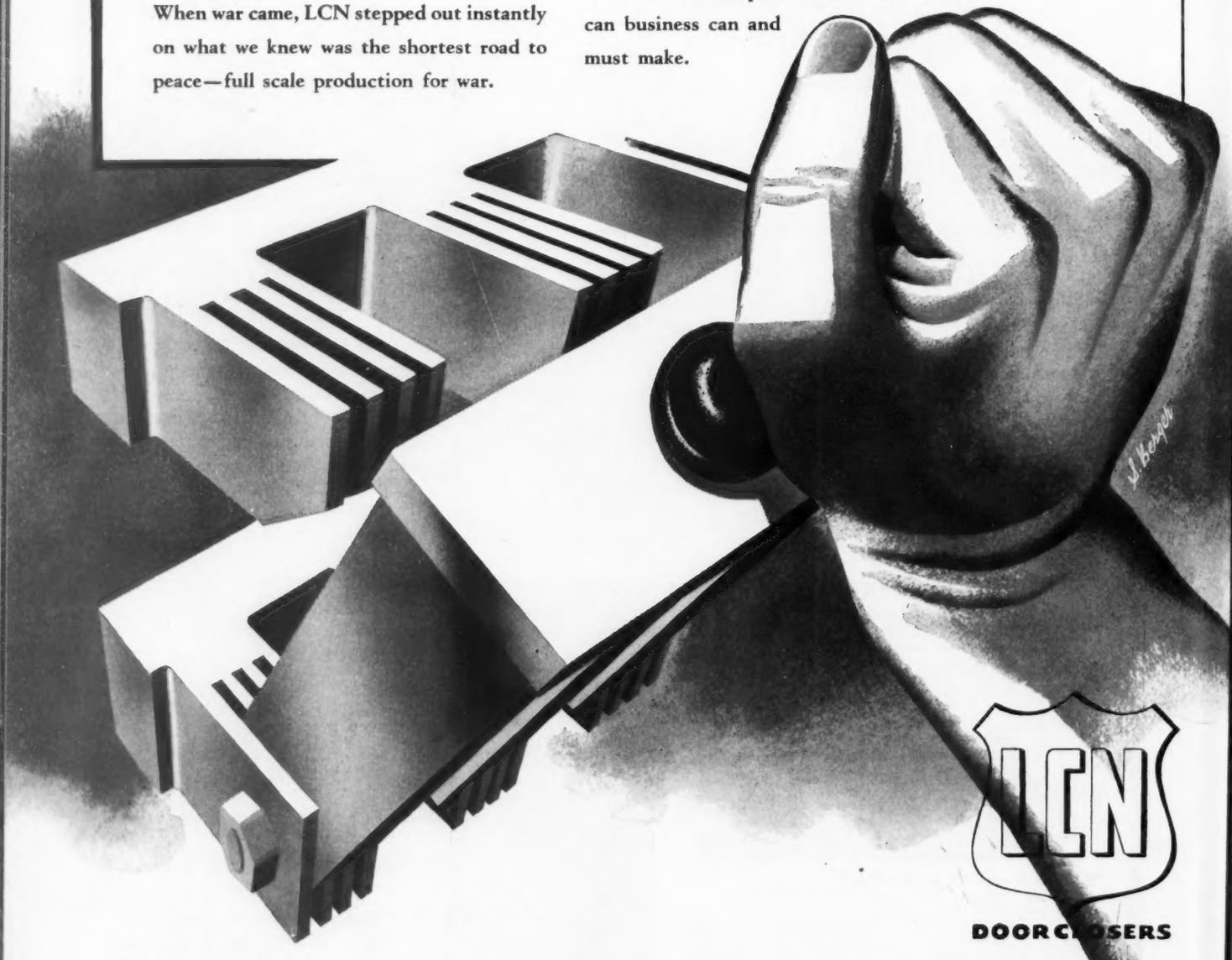
It will be important to you. It will be important to workers who need productive jobs. It will be of the utmost importance to every business . . . to all America . . . in order to avoid "make work" expediencies . . . in order to keep the kind of America we fought for.

When war came, LCN stepped out instantly on what we knew was the shortest road to peace—full scale production for war.

Today, even as we apply every productive resource to increase our swelling flood of war material, we at LCN find time . . . make time . . . to forge our plans for peace. We will be ready with our answer to the critical problems that will be upon us.

Expect us, then, when that time comes, to switch over to the business of peace with utmost speed—for you, for us, for America.

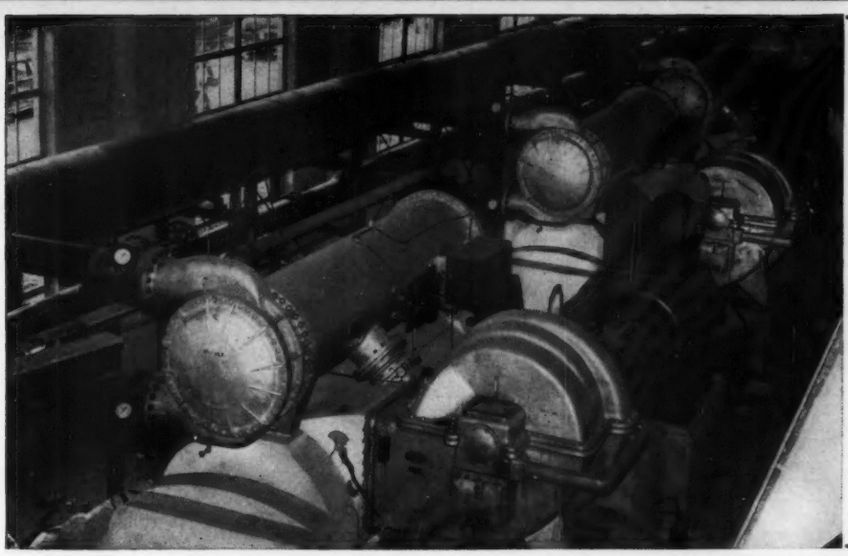
It is the one adequate answer that American business can and must make.



LCN

DOOR CLOSERS

NORTON LASIER COMPANY, 466 WEST SUPERIOR STREET • CHICAGO



Design and Construction directed by Lt. Colonel Clarence Renshaw, District Engineer of Arlington, Virginia. *Chief Architects,* G. E. Bergstrom and D. J. Witmer. *Mechanical Engineer,* Charles S. Leopold, Philadelphia, Pa. *General Contractors,* joint organization of John McShain, Doyle & Russell and Wise Contracting Company, Inc. *Mechanical Sub-Contractor for Refrigeration Plant,* Carlson Bros. of Michigan; for the *Building Conditioning,* Baker Smith, Inc. and Mehring & Hanson Company. *Refrigeration Machines and Weathermaster Units* by Carrier Corporation.

12 CARRIER CENTRIFUGAL REFRIGERATION MACHINES provide a cooling capacity of 13,200 tons. This is equivalent to the melting of 26,400,000 pounds of ice daily.

WORLD'S LARGEST OFFICE BUILDING

COMPLETED FOR WAR DEPARTMENT

CORRIDORS AS WELL AS ALL OTHER space are served by Carrier Weathermasters designed as an integral part of the building.

7,800 WEATHERMASTER UNITS supply a total of 3,900,000 cubic feet of conditioned air per minute. Each office enjoys desired temperature and humidity supplied by the Carrier Weathermaster unit serving it.

This most coveted honor, the Army-Navy "E", was awarded to Carrier Corporation for excellence in war production.

Carrier
AIR CONDITIONING
REFRIGERATION

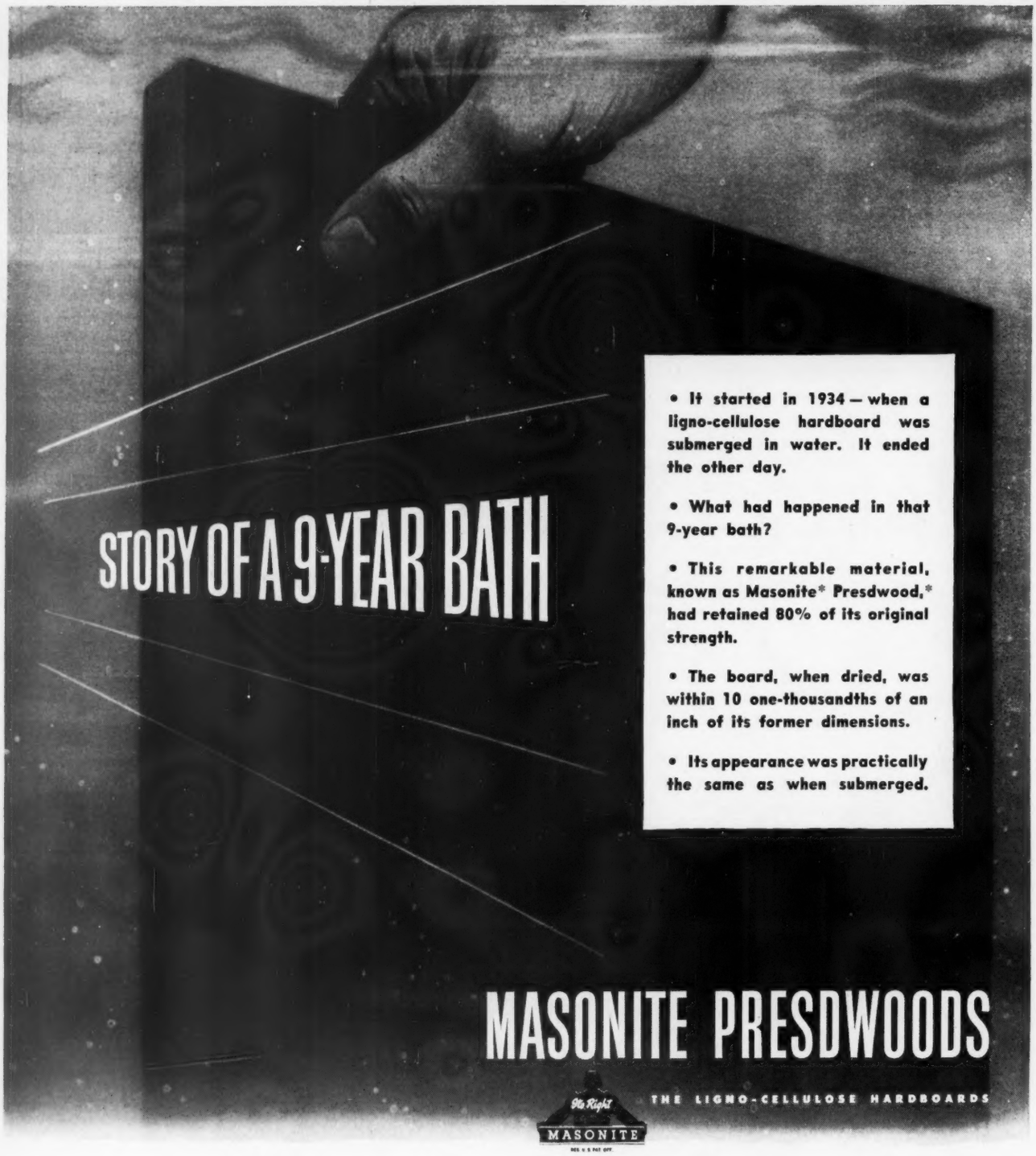
Individual Weather Control for each Office

A huge army of government employees — 35,000 strong — moved into Arlington, Virginia recently as the War Department occupied its tremendous new building on the shore of the Potomac just across from the nation's capital.

One of the outstanding features of the building is the Carrier Air Conditioning System. As a result of it, several million square feet of interior space, including basements, that otherwise would have been wasted except for storage, have become available for regular use.

In addition, the air conditioning helps to keep manpower at peak efficiency by offsetting the enervating heat prevalent on the shores of the Potomac in summer and the vagaries of Washington weather in winter.

Just as the Pentagon Building is the largest office structure in the world so is the Carrier Air Conditioning System the largest of its type ever installed.


STORY OF A 9-YEAR BATH
• It started in 1934 — when a ligno-cellulose hardboard was submerged in water. It ended the other day.
• What had happened in that 9-year bath?
• This remarkable material, known as Masonite* Presdwood,* had retained 80% of its original strength.
• The board, when dried, was within 10 one-thousandths of an inch of its former dimensions.
• Its appearance was practically the same as when submerged.
MASONITE PRESDWOODS
THE LIGNO-CELLULOSE HARDBOARDS
Its Right
MASONITE

THE secret of Presdwood lies in the two basic elements of natural wood: the tiny *cellulose* fibers, of which wood is composed, and the *lignin* which holds the fiber together.

The Masonite process starts with *exploding* wood, neither removing the lignin nor damaging the cellulose fiber. The result is a mass of fiber of varying degrees of plasticity.

The next step is to interlace the fiber so as to provide equal strength in all directions, and then weld it together under varying heats and pressures, using lignin's own great bonding power.

Masonite Presdwoods—made in this way from ligno-cellulose fiber of varying degrees of plasticity in different weights and densities — are suitable for many special purposes and uses.

• • •

Today in America's War Program, Presdwoods have more than 500 uses — saving steel, aluminum, rubber, and other critical materials, and are not readily available for civilian use. After Victory they will again be ready to provide the homes you design with sturdy exteriors, beautiful walls and ceilings, built-in furniture, kitchen cabinets and counter tops, and many other attractive features. Masonite Corporation, 111 West Washington Street, Chicago, Illinois.

ARMY E NAVY

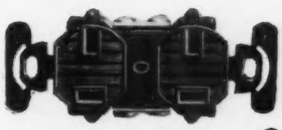
*Trade-mark Reg. U. S. Pat. Off. "Masonite" identifies all products marketed by Masonite Corporation.

Copyright 1943, Masonite Corp

G-E Wiring Material News

G-E WIRING DEVICES
for Wartime Wiring

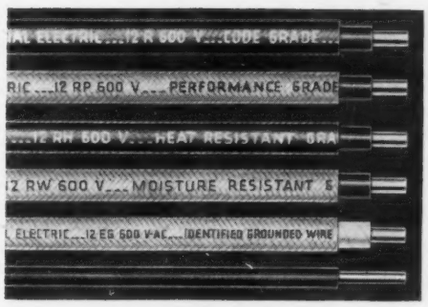
High quality, long lasting G-E Wiring Devices are available for any type of war building you are designing. For instance, there is a wide variety of power outlets, lampholders and heavy-duty switches for industrial wiring . . . a full line of Moncor Surface Wiring Devices for use in cantonments, war housing, etc. . . . many standard devices suitable for war projects of all kinds.



SPECIFY G-E CONDUIT
for Wiring Hazardous Locations

Rigid electrical conduit can still be used in wet or hazardous locations according to WPB Limitation Order L-225. Electrical metallic tubing and flexible conduit are available for standard uses with limitations. For dependable service specify G-E raceways. Both G-E White zinc-covered conduit and G-E Black enamelled conduit are leaders in their classes. G-E electrical metallic tubing and G-E flexible conduit are of highest quality.

G-E BUILDING WIRE
for War-aid Purposes


...12 R 600 V...CODE GRADE...
...12 RP 600 V...PERFORMANCE GRADE
...12 RH 600 V...HEAT RESISTANT GRA
...12 RW 600 V...MOISTURE RESISTANT
...12 EG 600 V-AC...IDENTIFIED GROUNDED WIRE

Six standard grades of building wires are available for war purpose installation including Types R, RP, RH, RW, EG, and SN. G-E Building Wires have high quality. The best raw materials are used. Manufacturing is carefully done. Accurate centering of conductors is provided by continuous vulcanization of insulation. G-E Building Wires can be depended upon to give good service.

Clip This Coupon

Send this coupon for information on G-E conduit, wire and cable and wiring devices described on this page for wartime wiring:

General Electric Company
Section CDW 637-45
Appliance and Merchandise Dept.
Bridgeport, Conn.

Sirs: Please send me information on the following materials for wartime wiring:

( ) G-E Conduits
( ) G-E Wires and Cables
( ) G-E Wiring Devices

Name .....
Address .....
City ..... State .....

GENERAL ELECTRIC

THESE are the Windows for THESE jobs on your boards...

HOSPITALS, SANITARIUMS, INSTITUTIONS, ETC.

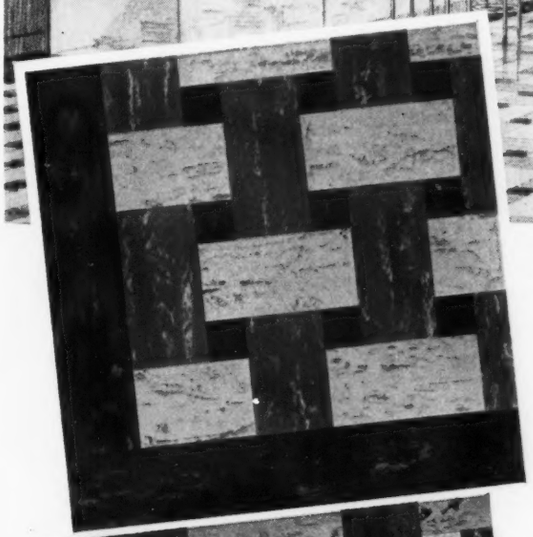
Look into the construction advantages and "air-delivering" features of Truscon Maxim-Air Windows, to help you complete the institutional jobs which you're planning for construction right after V-Day. Complete information mailed promptly upon request.

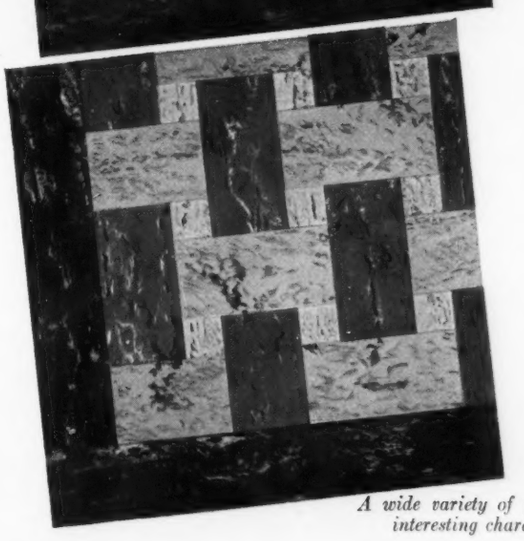
Yes, you can *definitely* build these beautiful, efficient windows into your sketches and blueprints now. For Truscon will be ready to furnish them to your jobs when the structures are ready for fenestration. The same Truscon quality will be there . . . the same fine details of construction . . . the same efficiency of design that permits economical, satisfactory, long-lived installation.

And the same skilled Truscon window engineers still are available from conveniently-situated offices, to help you plan Maxim-Air window structures ready for V-Day construction. Truscon Steel Company, Youngstown, O. Subsidiary of Republic Steel Corporation.

TRUSCON "Maxim-Air" STEEL WINDOWS

Almost any pattern and color you want!





These rugged floors of ASBESTOS and ASPHALT effectively meet today's requirements

If you have a floor covering problem, investigate the advantages of Johns-Manville Asphalt Tile. This colorful, resilient flooring is readily available either for essential new construction or for necessary replacements of worn-out floors.

LONG SERVICE. J-M floors have a tough composition of asbestos fiber and asphalt and will withstand unusually hard wear. This ability to last longer is a primary requirement of every purchase in a war economy.

EASY TO MAINTAIN. The shortage of labor in most buildings is a serious problem today. J-M Asphalt Tile Floors help meet this problem because they require little care. Pre-waxed, they are ready for use as soon as installed and are easily kept clean.

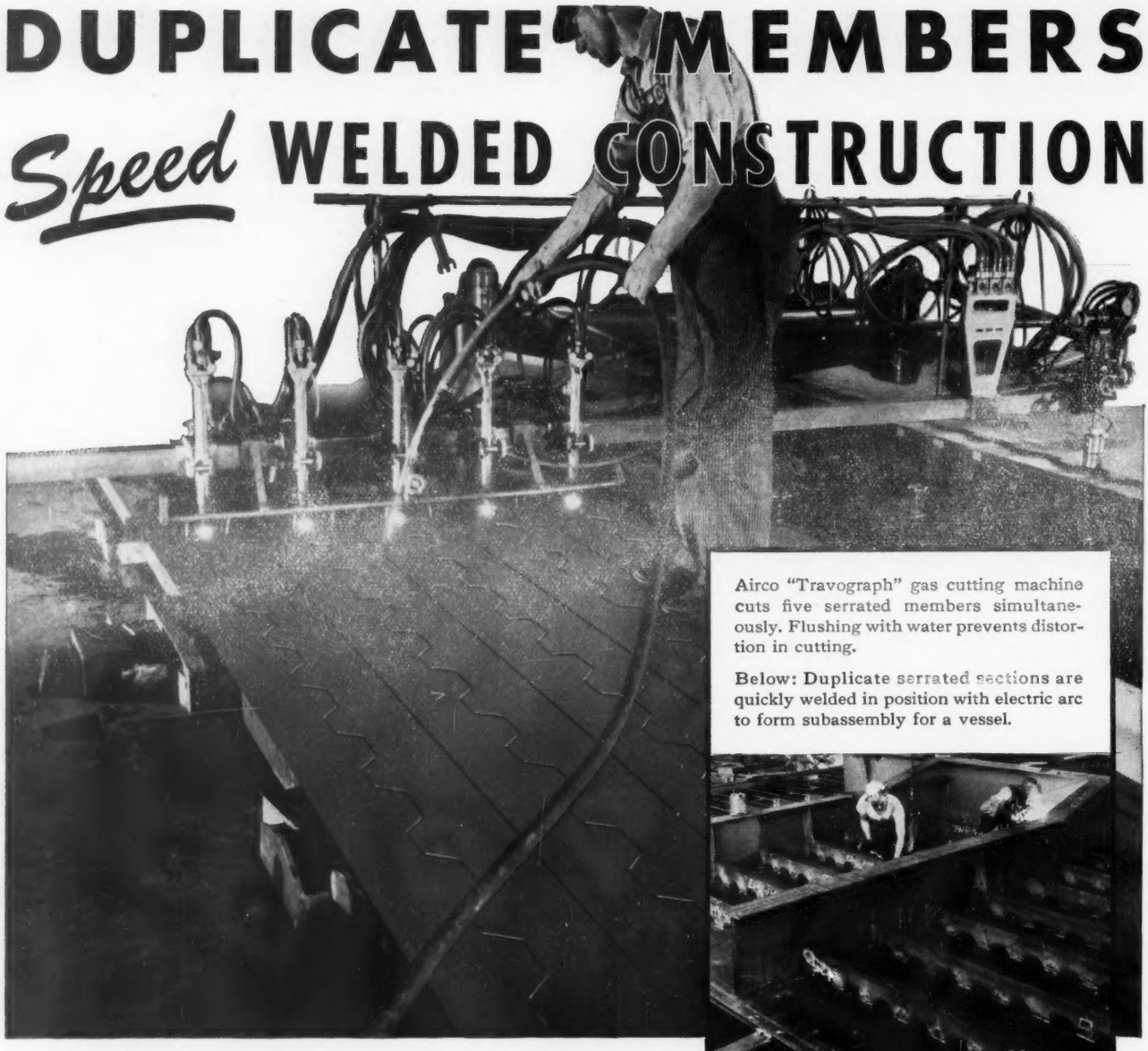
LOW COST. J-M floors are made to pre-war standards of quality . . . are available at pre-war prices too! They cost less than any other type of resilient floor covering on the market.

An interesting full-color brochure entitled "Ideas for Decorative Floors" contains the full story of J-M Asphalt Tile Flooring. For free copy address Johns-Manville, 22 E. 40th St., New York.

A wide variety of plain and marbleized colors meets any decorative scheme. Note particularly the interesting character of the J-M marbleizing which avoids all feeling of mechanical regularity.

JOHNS-MANVILLE PRODUCTS **JM** **JOHNS-MANVILLE** *Asphalt Tile Flooring*

DUPLICATE MEMBERS *Speed* WELDED CONSTRUCTION



Airco "Travograph" gas cutting machine cuts five serrated members simultaneously. Flushing with water prevents distortion in cutting.

Below: Duplicate serrated sections are quickly welded in position with electric arc to form subassembly for a vessel.

IN BUILDINGS AS IN SHIPS

By using designs that employ a large duplication of structural members, shipbuilders have greatly speeded welded ship construction. These duplicate members may be quickly produced by multiple-torch flame cutting, and their use effects valuable savings in cost, time, and materials.

Similarly, in building construction, fabricating duplicate members by machine gas cutting saves time and reduces cost. Where strict duplication is not desired, similar members varying slightly in length and detail may be flame cut quickly by making minor changes in the templates that guide the cutting torches.

This method of preparing steel for structural welding is one of many factors that have facilitated the widespread use of welding in war production. Air Reduction's Applied Engineering Department can give you details on many other recent welding developments. Their services are available to provide technical assistance on any problems of structural welding design.

Air Reduction

General Offices: **60 EAST 42nd ST., NEW YORK, N. Y.**

IN TEXAS: MAGNOLIA-AIRCO GAS PRODUCTS CO.

General Offices: **HOUSTON, TEXAS**

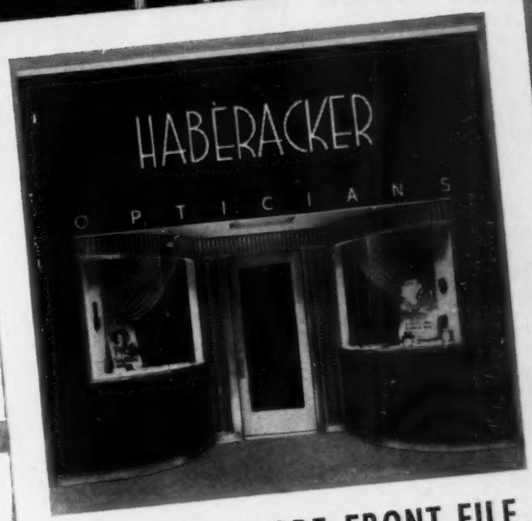
AIRCO

WILSON

IDLE CYLINDERS ARE PRODUCTION SLACKERS: *Keep 'em rolling for victory!*

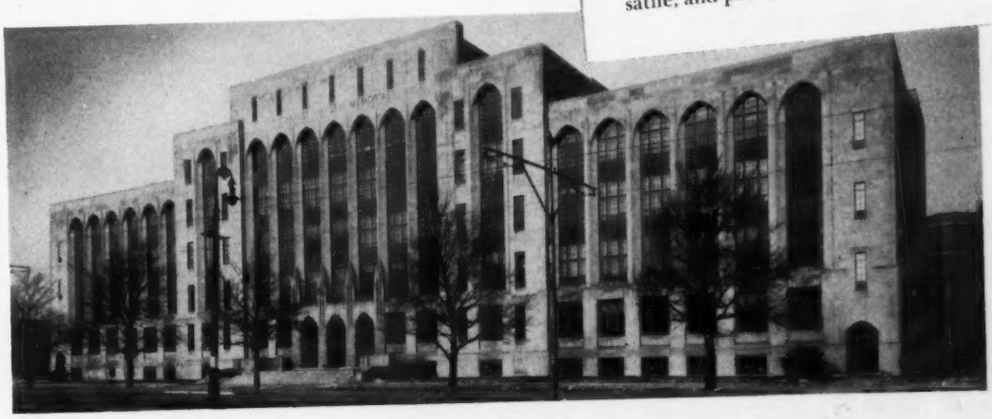
NEWS ABOUT GLASS from "Pittsburgh"

LIFE-SIZE MURALS of edge-lighted, decorated plate glass are now practical . . . as evidenced by these edge-lighted plate glass mirror panels in the cocktail lounge of the Penn-McKee Hotel, McKeesport, Pa. The sand-blasted figure is full life-size; the mirrored panels 7 feet square. This offers a new design medium for planners of future buildings.



FOR YOUR STORE FRONT FILE. Whether a store's frontage is small or large, Pittco Store Front Products offer the architect the maximum opportunity to create an individualized, sales-winning store front. These products, including the necessary store front metal, are extremely versatile, and provide endless design possibilities.

ARCHITECTS WHO DESIGN buildings with large light-transmitting areas have found Pennvernon Window Glass a good glazing material to specify. It is unusually clear and free from distortion for a sheet glass, and offers good vision, coupled with good looks. This is the Pennvernon-glazed College of Business Administration building of Boston University, designed by Architects Cram & Ferguson.



PITTSBURGH PLATE GLASS COMPANY · PITTSBURGH, PA.

"PITTSBURGH" stands for Quality Glass and Paint

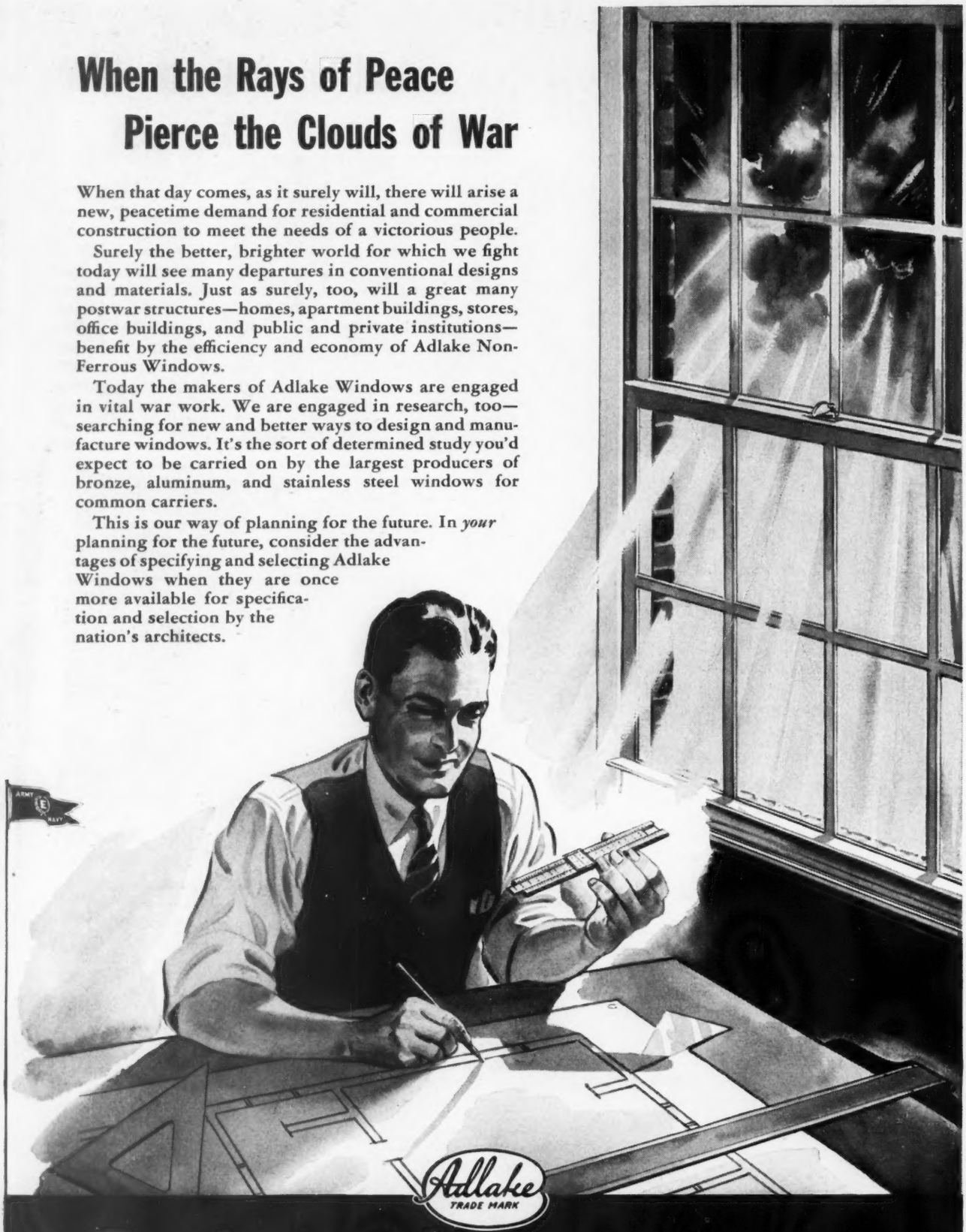
When the Rays of Peace Pierce the Clouds of War

When that day comes, as it surely will, there will arise a new, peacetime demand for residential and commercial construction to meet the needs of a victorious people.

Surely the better, brighter world for which we fight today will see many departures in conventional designs and materials. Just as surely, too, will a great many postwar structures—homes, apartment buildings, stores, office buildings, and public and private institutions—benefit by the efficiency and economy of Adlake Non-Ferrous Windows.

Today the makers of Adlake Windows are engaged in vital war work. We are engaged in research, too—searching for new and better ways to design and manufacture windows. It's the sort of determined study you'd expect to be carried on by the largest producers of bronze, aluminum, and stainless steel windows for common carriers.

This is our way of planning for the future. In *your* planning for the future, consider the advantages of specifying and selecting Adlake Windows when they are once more available for specification and selection by the nation's architects.



Adlake
TRADE MARK

THE ADAMS & WESTLAKE COMPANY

ESTABLISHED IN 1857 — ELKHART, INDIANA — NEW YORK · CHICAGO

MANUFACTURERS OF ADLAKE NON-FERROUS METAL WINDOWS

How steel-framed buildings stand up under bombings

THE bomb exploded right at the corner of this building. Two of the main steel columns were sheared off—but the structure did not collapse. Most of the damage was localized in the first floor. This shows how fully steel-framed buildings resist the wholly unpredictable stresses resulting from bomb blasts —even under direct hits.

The photographs shown here are only two of 47 similar ones received from England which show steel-framed buildings hit by bombs, but not demolished. Note also how the steel window sash has withstood the blast of the bomb, most of it remaining intact.

Here is a quotation from the report of the British Steelwork Assn., which collaborated with the British Government authorities in studying this modern structural problem:

"The fully steel-framed building has suffered only to a very minor extent and has shown remarkable resilience, which has tended to localize the damage. This local damage, in many cases, has been subject to rapid repair."

These results indicate that the American type of skyscraper is a very safe structure. London authorities wish they had more of them.

Attention is called to the value of soundly jointed structures which are able to resist both the inward pressure of the explosion and the outward pull of the suction. This is particularly recommended in the case of main beams in single-story factory construction where prevention of "spreading collapse" is desired.

Lessons learned from this war point to a greater use of steel for all types of structures in the future.

***1.** Steel-framed structures h ihe ability to withstand sev punishment from bombing wi out disintegrating as is the c with plain masonry structur*

***2.** Close-up view shows h bomb struck the corner of foundation of this steel-fran apartment building. Two m columns were blasted away the damage was localized in first floor.*

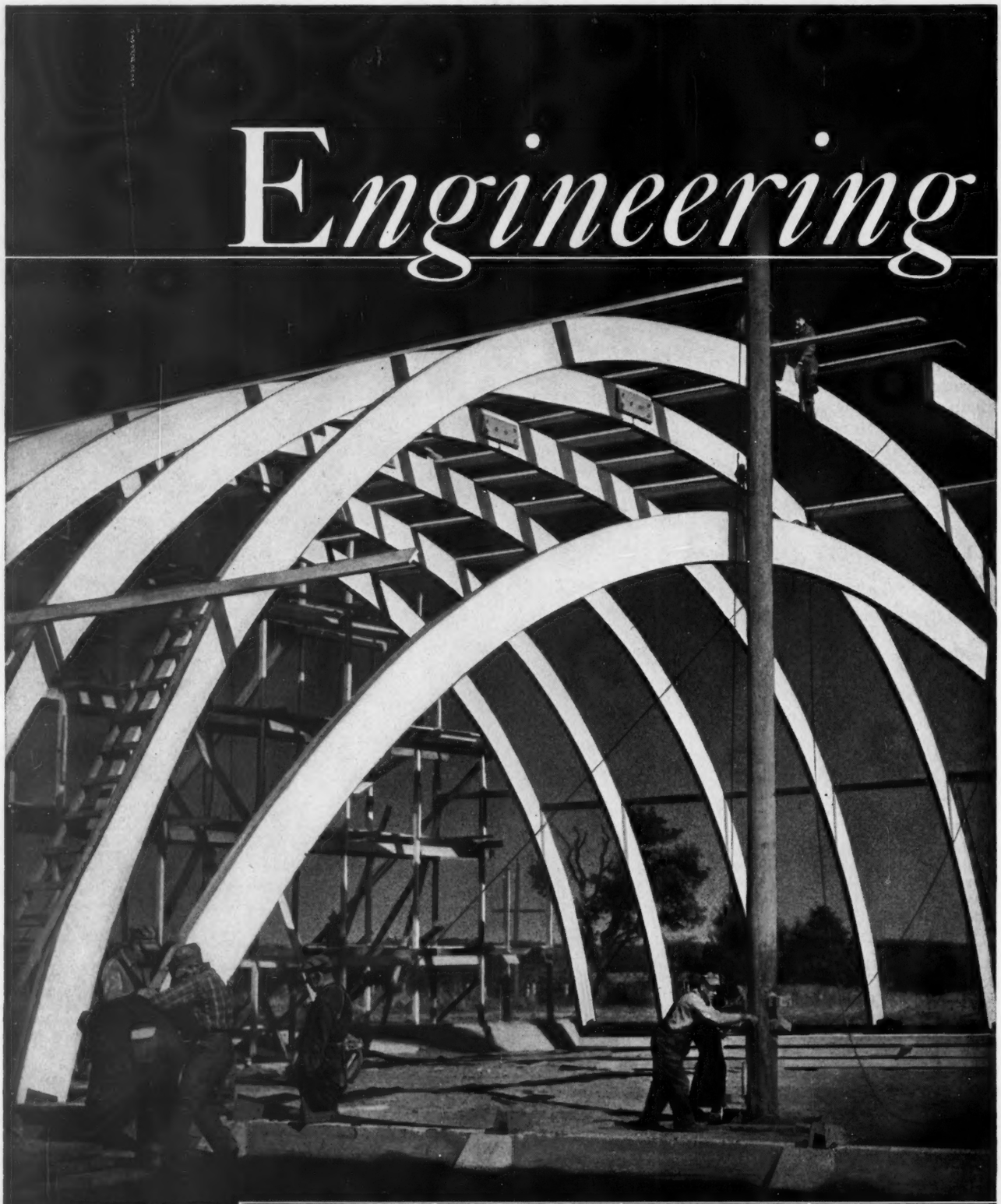
USS

CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

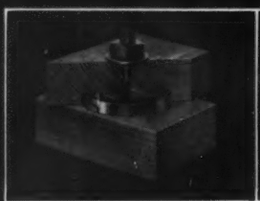
United States Steel Supply Company, Chicago, *Warehouse Distributors* · United States Steel Export Company, New York

UNITED STATES STEEL

Engineering

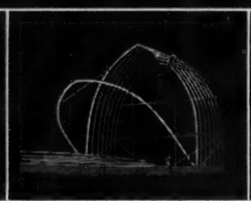


Engineering in Lumber is progressively increasing the efficiency of wood as a structural material... Modern wood products are making important contributions to better, more economical construction.

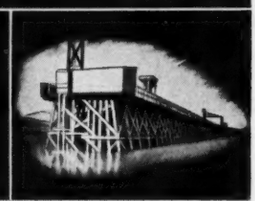


Teco Metal Timber connectors make it possible to join wood members; utilize 80% or more of the working strength of wood.

Modern structural glues make possible Glued Laminated Wood roof trusses, arches, plybeams and other structural members.

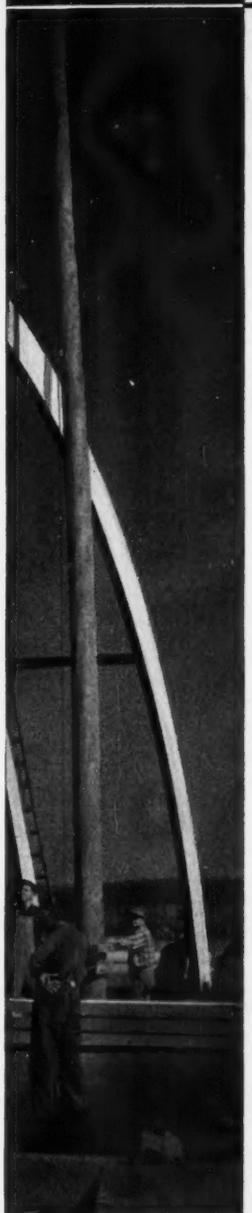


Glued wood laminated framing members combine roof and side-wall in a unit, giving stronger, more wind-resistant buildings.



New processes for the treatment of wood extend its service life, broaden its uses, and increase its value in many fields.

in Lumber



extends the service of wood

TODAY, if you were to visit the lumber mills or modern wood fabricating plants you'd come away with a completely new conception of the present results and future possibilities of Engineering in Lumber.

The log, which continues to yield such items as timbers, boards and dimension, is, under the stimulus of engineering and research also delivering today more workable, more versatile materials which are serving vast new fields of use.

New ways of forming and shaping lumber, new methods of joining and bonding it, have developed wood laminated structural members, various types of plywood and many other new products for improved construction.

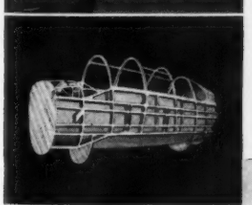
Pictured at the left is a giant airplane hangar in the process of erection. Its framing members, known as beam arches, are of wood laminated construction. They are engineered to meet the job requirements. These arches are accurately fabricated in modern plants, under supervised production controls, finished and delivered to the job site ready for erection.

Wood laminated roof trusses, arches, rafters, ply-beams and other structural members are destined to serve increasingly important construction needs. America is already experiencing the benefits of their new values in rigidity . . . in wind and load bearing features for civilian, farm and military uses.

As a result of the marked advances in Lumber Engineering, architects designing the future homes, service and commercial buildings, will find in wood a new, improved, more economical medium through which to express greater beauty and to assure more practical building functions.

WEYERHAEUSER SALES COMPANY

FIRST NATIONAL BANK BUILDING • SAINT PAUL, MINNESOTA



Plywood is proving its versatility in countless applications. Shapes and strengths can be predetermined for specific uses.

4-SQUARE LUMBER

WHERE A "STRETCH" IN TIME *STRETCHES FUEL*

HOFFMAN No. 8 TRAP
All-bronze body —for medium pressures. Renewable Seat and Thermostat.

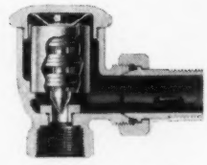
You've got to stretch your fuel these days! To do it, remember that the *quality* of your heating equipment determines to a large degree the *quantity* of fuel burned.

In the matter of steam traps, for example. A Hoffman Trap is operated by a thermostat in which multiple diaphragms expand and contract to open or close the trap port. The thermostat must *instantly* expand, or "stretch," when touched by live steam, or steam is lost and fuel wasted. It should also contract promptly when steam has condensed to permit condensate drainage. The thermostat must be able to perform these operations an infinite number of times without losing flexibility.

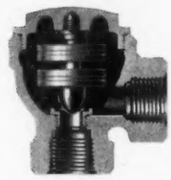
Hoffman Traps have thermostats made of a non-corrosive metal, full of spring, long-lived in spite of countless flexings and high temperatures. Diaphragm material is laboratory tested under conditions more severe than ever encountered in actual service. In these traps you get the "stretch" which means efficient operation and steam conservation.

To be sure that *your* heating system is not suffering from lack of "stretch," do this—check your steam traps and replace worn-out units at once. When replacing, make your selection from Hoffman's complete line of steam-saving specialties . . . known and respected everywhere for quality of material, excellence of design and painstaking workmanship. Hoffman Traps are so constructed that parts subject to wear can be easily and inexpensively renewed.

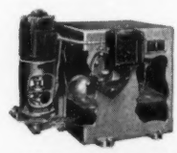
When you specify Hoffman you can be sure that you are getting a three-way "stretch" . . . in fuel, in steam utilization and in service life. Hoffman engineers are available for consultation at all times. Write for literature.



HOFFMAN No. 9H TRAP
A bronze-bodied unit for high pressure work. Renewable Seat and Thermostat.



HOFFMAN No. 17-D TRAP
A low pressure cast iron trap, with renewable Seat and Thermostat.



HOFFMAN-ECONOMY CONDENSATION PUMPS
Available in a full range of pressures and capacities.

A few of the many places where Hoffman Steam Specialties are helping the war effort

WAR PLANTS

Chrysler Corp. • Studebaker Corp.
Sioux Ordnance Plant • Pueblo Ordnance Plant • Nebraska Ordnance Plant

ARMY AND NAVY HOSPITALS

Fort Riley • Valley Forge
Nichols Hospital • Fort Francis E. Warren Mobilization Hospital

AIR BASES, FIELDS AND SCHOOLS

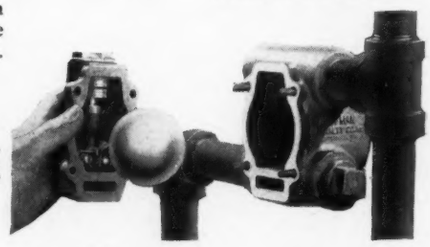
Topeka • Lincoln • Pauline • Deming
Oklahoma City • Victoria • Alliance

CAMPS

Camp Atterbury • Camp Breckenridge
Camp Clark • Camp Gruber
Camp Davis • Camp Blanding

SHIPYARDS

Philadelphia Navy Yard • Norfolk Navy Yard
Brooklyn Navy Yard • Ingalls Shipbuilding Co.
American Shipbuilding Co.
General Engineering & Dry Dock Co.
Pullman Standard Car Mfg. Co.



HOFFMAN 50 SERIES TRAP
A heavy duty unit with all working parts mounted on the cover. Can be easily serviced without breaking pipe connections.

HOFFMAN

HOFFMAN SPECIALTY CO., 1001 YORK ST., DEPT. PP-6 INDIANAPOLIS, INDIANA

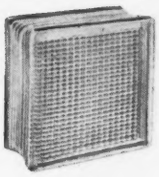
Makers of Hoffman Valves, Traps and Pumps —sold everywhere by leading wholesalers of Heating and Plumbing equipment.

Controlled Heating

STEAM / HOT WATER

Predestined

FOR A PART IN POST-WAR DAYLIGHTING

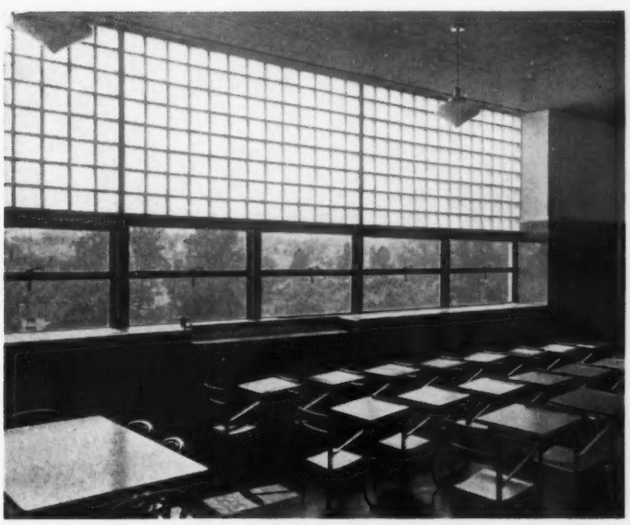


In the four buildings on this page you see the future of *controlled* daylighting in new buildings planned for 194-X.

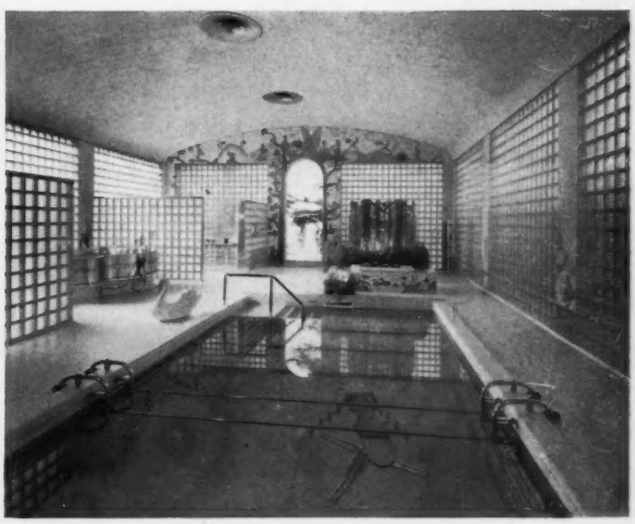
INSULUX Glass Block diffuse, direct, and distribute daylight where it can be used to best advantage. The value and usefulness of this new *quality* of natural light will find even greater expression tomorrow as we continue to work with architects in fitting INSULUX to its foremost job of bringing the miracle of daylight *indoors.*

Owens-Illinois Glass Company, INSULUX Products Division, Toledo.

OWENS-ILLINOIS
INSULUX
GLASS BLOCK



SCHOOL— *Light-Directional* INSULUX Glass Block project daylight deep into interior of classrooms for the benefit of all students. Sash below glass block panels allow unobstructed vision and provide ventilation.



HOSPITAL— Crippled children are bathed in sunlight as they receive treatment in indoor pool. Privacy, sanitary surfaces, and exciting cheerfulness are a few of the advantages here.

SUPER MARKET— Monitor and wall panels of INSULUX insure *working* daylight throughout store. INSULUX is sturdy, easily cleaned, needs no paint—with lower upkeep than any other type of light-transmitting material.

INFORMATION BOOTH — Under Park Avenue ramp at 42nd Street, New York City. Problem: dust-proof, sound-proof, light-transmitting areas. Answer: INSULUX Glass Block.

CONCRETE

HAS WHAT IT TAKES FOR WAR CONSTRUCTION

FOR EXAMPLE . . .

A Modern Arsenal

Concrete construction in which walls are integral with framing, floors, and roofs has the rugged strength and fire resistance essential to war buildings.

1. Concrete saves steel.
2. Transportation facilities are conserved, since the bulk of concrete materials are usually found locally.
3. Construction is expedited by improved methods, easily accessible materials, local labor.
4. Architectural distinction is easily obtained by interesting textures and simple decorative effects produced economically in the forms.

All-concrete Administration Building of arsenal in middle west. Designed by U. S. Engineer Office. Priester Const. Co., Davenport, Iowa, contractor.

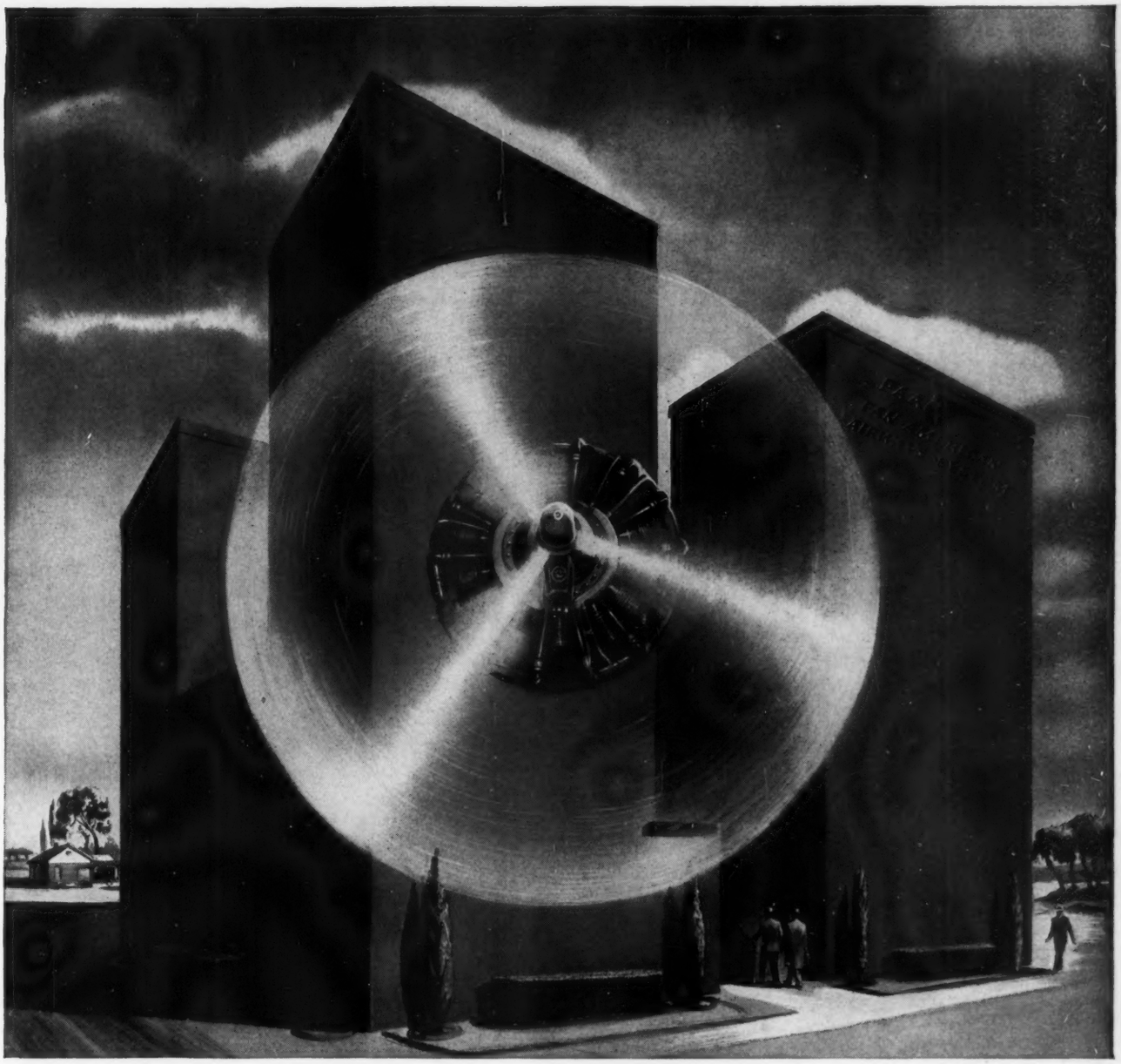
Basement area of heavy ordnance building. T. S. Willis, Janesville, Wis., and Priester Const. Co., contractors.

To help get the maximum service which Architectural Concrete can render, the Portland Cement Association's staff of skilled concrete technicians is available to assist designers and builders of war structures. Ask for this service.

PORTLAND CEMENT ASSOCIATION, Dept. A6-25, 33 W. Grand Ave., Chicago, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

BUY MORE WAR BONDS AND SUPPORT THE RED CROSS



Cave-of-the-Winds in Miami

YOU'LL never see a building more purely functional in design than this four-towered test house, where the engines of Pan American Clippers are put through their paces.

Inside, propellers roar with the thunder of 4000 horsepower—creating super-hurricanes of wind as air is pulled down one set of stacks and pushed out through the other set. Yet outside, there's hardly a sound—for in each stack a honeycombed unit of cells soaks up the resonance, bit by bit, until it is finally dissipated.

Naturally, this completely windowless structure had to be air conditioned—to remove heat generated by the engines, to provide controlled testing temperatures, to make working conditions bearable for the engineers. As in so many other wartime applications of air conditioning and industrial refrigeration, the equipment selected was G-E.

Today, the talents of G-E Air Conditioning, Heating and Refrigeration engineers—always available to architects and engineers—are helping to win the war. God speed the day when those talents can work *with* and *for* you in the pursuits of peace!

General Electric Company, Air Conditioning and Commercial Refrigeration Department, Division Bloomfield, New Jersey.

Air Conditioning by **GENERAL ELECTRIC**

TO HIT 'EM H-A-R-D-E-R

THE year 1943 promises to be the grimmest, hardest year this country has ever faced. Every effort, and every dollar of national income not absolutely needed for existence, should go into war work and War Bonds.

In the Pay Roll Savings Plan, America finds a potent weapon for the winning of the war—and one of the soundest guarantees of the preservation of the American way of life!

Today about 30,000,000 wage earners, in 175,000 plants, are buying War Bonds at the rate of nearly half a billion dollars a month. *Great as this sum is, it is not enough!* For the more dollars made available now, the fewer the lives laid down on the bloody roads to Berlin and Tokio!

You've undoubtedly got a Pay Roll Savings Plan in your own plant. But how long is it since you last checked up on its progress? *If it now shows only about 10% of the gross payroll going into War Bonds, it needs jacking up!*

This is a *continuing* effort—and it needs *continual* attention and *continual* stimulation to get fullest results.

You can well afford to give this matter your close personal attention! The actual case histories of thousands of plants prove that the successful working out of a Pay Roll Savings Plan gives labor and management a common interest that almost inevitably results in better mutual understanding and better labor relations.

Minor misunderstandings and wage disputes become fewer. Production usually increases, and company spirit soars. And it goes without saying that workers with substantial savings are usually far more satisfied and more dependable.

And one thing more, these War Bonds are not only going to help win the war, they are also going to do much to close the dangerous inflationary gap, and help prevent post-war depression. The time and effort *you* now put in in selling War Bonds and teaching your workers to save, rather than to spend, will be richly repaid many times over—now and when the war is won.

★ ★ ★

You've done your bit Now do your best!

This space is a contribution to victory today and sound business tomorrow by NEW PENCIL POINTS

Why Use An Anemometer To Design A Post-War Window?

YES, you're right—an anemometer is an instrument for measuring *wind velocity*. And that's a mighty important factor in designing tomorrow's windows.

For the windows of the post-war period *MUST* be weather-tight . . . must reduce wind infiltration and heat loss. That's a No. 1 requirement for thousands of families who have learned the lesson of heat conservation in wartime.

But making a window weather-tight is a complicated process. You can't do the job overnight. It requires years of research and field experience . . . inventiveness of the highest order.

All these advantages Curtis has. That is why the Curtis Silentite is today's closest approach to a truly weather-tight window.

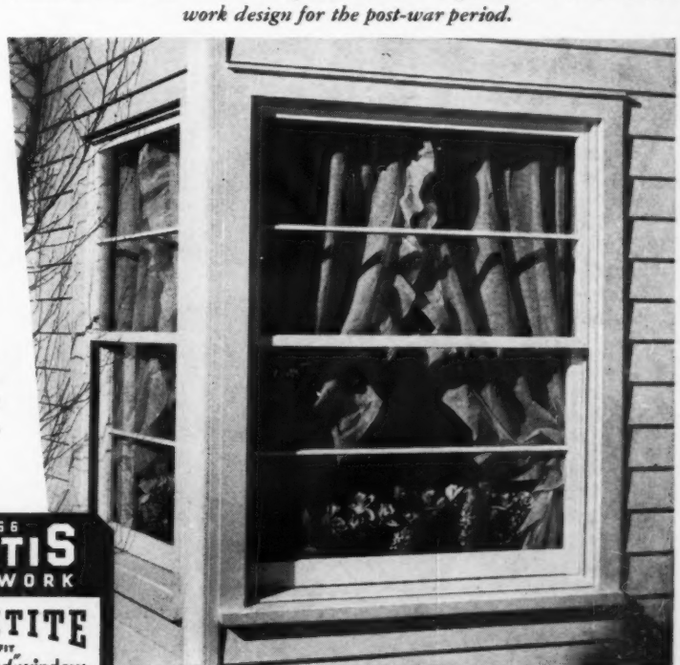
The Curtis Silentite Window is factory-machined and pre-fit for extreme weather-tightness and ease of operation. It is made of wood—a natural non-conductor of heat and cold. It requires no heat-leaking cuts in its jamb for weights and pulleys—because Silentite has none. It has the most efficient weather-stripping known today.

And note this: *the research which produced Silentite Windows, is still going on—without pause or hindrance.* That's the best possible assurance of Curtis leadership in producing the *weather-tight* windows of tomorrow.

If you are interested in knowing more about Silentite Windows, Mitertite Trim and other exclusive Curtis products for today's needs—or tomorrow's—write us.

Curtis Companies Service Bureau
Dept. PP 6S Curtis Bldg., Clinton, Iowa

Here is an example of the first basic window improvement in 300 years —the Curtis Silentite insulated *window. It's a typical product of Curtis research—and an assurance of Curtis leadership in window and woodwork design for the post-war period.*



1866 CURTIS WOODWORK
SILENTITE
PRE-FIT
the "Insulated" window

TOMORROW'S WINDOWS WILL HAVE GREATER WEATHER-TIGHTNESS

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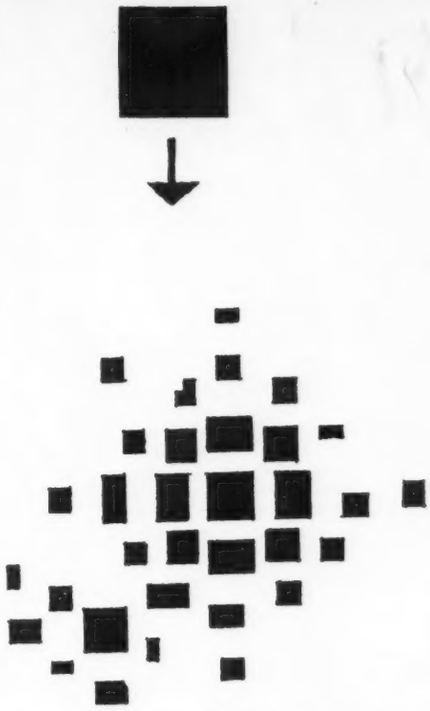

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Director, Urban Land Institute

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THE CITY

Its Growth; Its Decay; Its Future

by ELIEL SAARINEN

Director, Cranbrook Academy of Art

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It is a book which challenges the imagination; a book which every member of the architectural profession will find necessary for study with thoughts of his own future.

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